

CURRENT NOTES

Vol. 11, No. 4

May 1991

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Atari at CeBIT 1991

In this issue:

The Non-Conforming Mega STc

What Does Not Make a

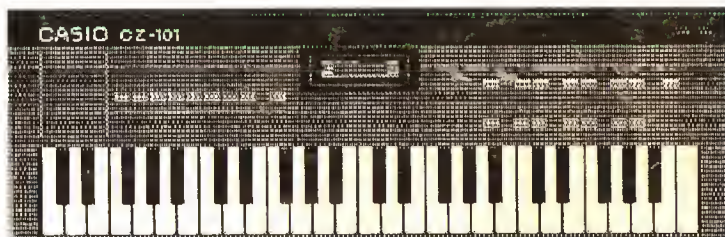
Programming Language

A Glimpse at Atari Computing in
Germany

I Remember...

SuperCharger Revisited

Becoming a Mac



Demystifying MIDI

Your Monitor on the World of Atari

CN 1104

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This publication is produced using an Atari Mega ST4, an Atari SM124 monochrome monitor and a Moniterm Viking monitor, a Navarone scanner, and the Atar SLM804 laser printer. Most of the output is generated with *Calamus*. Some pages, including advertisements, are produced with *PageStream* and others with *Publisher ST*.

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TIME TO RENEW?

Look at your mailing label. If it has the expression 9105 on the first line, that means your subscription ends in 1991, month 5, i.e. the May issue is your last. Renew ASAP to be sure you do not miss any issues.

MOVING?

Don't forget to send in a change of address notice if you are moving. Current Notes is distributed via second class US mail. The post office does not forward second class publications; they throw them away.

From the Editor's Desk

by Joe Waters

Learning by Doing

I've now had two issues' experience working with *Calamus*. I guess I don't really understand exactly how footers work. I've made a basic document that I load and use that for the standard CN pages. I simply import the text for whatever article is needed. I noticed, however, that on page 3 or 4 of the document, the footer was looking like it was in bold print. When I went to ungroup the footer to edit it, I discovered that the text was just fine. Hmmm. Then, I noticed that there were actually two footers on that page! Well, that explained it. Simply delete the extra footer.

Easier said than done. Under that footer was another footer, and another, and another. I deleted some dozen footers before I just gave up and deleted the whole page. Must be I'm doing something wrong.

Then there is the problem with the double quote marks. Some of you may have noticed that the "What, Me Copy?" article had some very strange quote marks. A plus sign "+" appeared instead of the left double quote mark. How did that happen? Beats me. I suspect it is the product of a font change.

If you look down at your keyboard, you will see a single double quote key. But when you read "published" articles, note that the left double quote is not the same as the right double quote. Where do the different quote marks come from? The double quote key will give you a standard "right side" double quote. But how do you get the "left side" double quote?

That depends on the font. In some fonts, particularly public domain fonts, you can look in vain for a left-side double quote. It simply isn't there. In quality, full-feature fonts, you can find it, but it isn't always in the same place. When working in the *Calamus* editor, there is a character that looks like the left-side double quote, but it doesn't necessarily correspond to what the font you are using has in that position.

What this all means is that desktop publishing is more complicated than using a typewriter or word processor. A global font change in an article that is otherwise finished could, indeed, throw in a wrinkle, like an unintended character change. Once more, experience was a dear teacher, giving us the exam first and the lesson afterwards.

Another strange thing happened as well. Ben Poehland called to ask what had happened to the beginning of his column. Nothing, as far as I knew. I looked at it and it looked fine. However, on careful reading, there were things that didn't make sense right at the beginning. Turns out that, somehow, the first couple of paragraphs disappeared. That, I suspect, was user error, although I am still not sure when and where they were

lost. At any rate, the curious will find those missing paragraphs at the end of Ben's column this month.

No Free Speech

You will notice in the Letters to the Editor section, quite a few comments on Darek Mihočka's letter from the March issue. Several readers took exception to Darek's suggestion that people run out and buy a PC. Others took exception to the fact that we would even publish such a thing. (Actually, Darek wanted to write a feature article. I turned him down suggesting that that would be clearly inappropriate for an Atari magazine, but I did say he could send in a letter discussing his GEMulator if he wanted.)

I believe our CN readers are, by and large, adults. We assume our readers are intelligent professionals, though not necessarily computer professionals, and try to provide information with which they can formulate their own ideas. If somebody thinks PCs are great, that's fine. Other people think their Atari is great and can explain why it is just the machine they need. In fact, you will see several letters doing just that in this issue. Indeed, I know there are many *Current Notes* readers who came to the Atari from other platforms--Commodore, Tandy, IBM, Apple, to name just a few. They weren't tricked into buying an Atari. They looked at the alternatives and decided that Atari was what they wanted.

By the same token, there are Atari owners who are going to decide that it is time to move on to another computer. They aren't being disloyal to Atari; after all, why do they have to be "loyal" to anyone? It's not like Atari cares about anyone once they've made their purchase. People have their own objectives and priorities, they're grown up, and they can make their own decisions.

A PS/2 Model 50? Oh, No!

I used to work with IBMs and now I work with a Mac II. Nonetheless, I would not trade in my Atari Mega for either machine. However, I will soon be shelling out big bucks for an IBM PS/2 Model 50. Why am I doing this?

My son will be graduating from high school this spring. He is going to Virginia Tech where he would like to study engineering. The Engineering College requires a computer. No problem, he already has a 4Mb STacy that he uses for his word processing and his synthesizer.

Last week the details of the requirements came in. The computer choices (at discounted student bargains

that ranged from \$2,000 to \$10,000) included, in addition to IBM PS/2 models, Macintosh, and NeXT computers.

Well, if you could have a Mac or a NeXT, why not an Atari? After all, their "recommended" model, the PS/2 Model 50, had a 30Mb hard drive (the STacy had 40Mb), 2MB of RAM (the STacy had 4MB), and ran at 10 MHz (the STacy was close at 8MHz). The requirements also said color VGA and here the STacy had some trouble since it was mono and, even hooked up to a color Atari monitor, could not do VGA. But the Atari could run Mac software and even IBM software, although slower than a 286-based computer.

I called the school to see just what was the driving force for the computer selection. The answer was VGA color graphics. Although Macs and the NeXT were offered, the software packages included with these machines included PC emulation that could run VGA graphics. In fact, even the high-resolution NeXT had to be purchased with a color monitor since the faculty had concluded that the use of color in computer aided design and engineering was more important than even very high resolution grey-scale.

So, there is my dilemma. My son already has a perfectly good computer, but not quite sufficient. Should I call Talon and see when 286 emulation will

be available? When can I expect to get VGA graphics output? The only thing available right now would be promises. And if I sent my son to school with his "Atari," who would fix it when it broke? If he were using an "emulator" and required software didn't quite work, he would be up a creek with no paddle available. No, if the PS/2 (or equivalent clone) were the "standard, recommended" machine, it would be only asking for trouble to go with something else. Getting through college has enough of its own set of problems to deal with that one doesn't have to introduce more by using non-standard equipment.

My daughter has a 1040ST at the University of Virginia. She is not "into" computers, but uses it for word processing, entertainment, and a little bookkeeping. But when she calls because something isn't working, there is no place to go to fix it and there is little I can do to help over the phone.

I am happy with my Atari and wouldn't trade it for anything else. But I will buy a PS/2 for my son. He will not only learn to be an engineer, he will learn it on the platform, and the software, that dominates the U.S. market. I will not be happy, and he may not, initially, be happy. But in decisions that potentially affect a person's career, brand loyalty is not a determining factor.

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Letters to the Editor

Syndicated Atari Strip?

Dear Mr. Waters:

I was wondering what kind of agreement you had with your cartoonist Rick Keene. I am the newsletter editor for an Atari users group in Fort Collins, Colorado and I have been searching for a comic strip for the newsletter for a long time. I would like permission to reprint the comic strip in our newsletter. Please pass this request to Rick. I'm willing to work on any arrangement you and Rick can think of. Without speaking to my users group president, I can offer to put Rick on the newsletter mailing list in exchange for the right to print his cartoons. Please let me know what your thoughts are on this matter. Enclosed is last month's newsletter, please forward it to Rick.

Darryl May
FRAUG Editor
Fort Collins, CO

Dear Darryl,

I talked to Rick about your proposition and, as luck would have it, he loves to get newsletters. So, by putting Rick on your mailing list, you can, indeed, reprint the A.Yooza comic strip that appears in *Current Notes*. Rick and I decided to print your letter, and our answer, in CN in case other club newsletter editors were also interested. If so, Rick can be reached on GENie as R.KEENE2 or give him a call (508) 651-7748 to get his mailing address.

CN policy does permit Atari User Groups in our list of user groups (see page 78) to reprint articles or columns from CN. The only restriction is that you give proper credit to the author and reference the issue of *Current Notes* from which the article is drawn.

Joe Waters
Publisher, CN

Making Video Titles

Dear JW:

In answer to the letter in the March issue of CN from Mario Car-doza Jr, Brunswick, ME....

Degas Elite and *Cyber Paint* are two drawing/paint programs I find very good for making video titles.

However, the software is only half the solution! Getting the title from the computer to video tape is the other half of the problem. Two ways of doing it are: 1) Shoot the title off the computer screen with your video camera; or 2) Use a *VideoKey*. Of the two, the *VideoKey* will produce superior results.

The *VideoKey*, available from practically all Atari dealers and mail order houses, is a hardware device that plugs into the monitor jack on the ST. The monitor then plugs into the *VideoKey* and is used normally. The *VideoKey* has audio and video output jacks that allow connection directly to your VCR or camera.

I use the *VideoKey* all the time for transferring my computer animations and their titles to tape and have been happy with it.

Stuart E. Bonwit
Silver Spring, MD

Where to Get PrintLink

Dear Mr. Sommers,

Thank you very much for publishing the user letters received about *PrintLink Collection* (Letters to the Editor) in the Jan/Feb '91 issue of *Current Notes*.

That has brought inquiries as to where it may be purchased. Should you be getting similar inquiries, *PrintLink Collection* may, among other fine stores, be purchased from either Mac-Connection (800-334-4444) or MacAv-enuue (800-395-6221).

GDT Softworks Inc.
Gary McIntosh
President

Backing Up Songflite

Dear Editor:

In response to Tony Mallin's letter in the Jan/Feb *Current Notes* about backing up the Midi Mouse *Songflite* music lesson disks, I had the same problem. However, the fact that the write protect tap must be closed prior to loading indicated the solution...

If you open the disk shutter and look on the non-labeled side, by rotating the hub of the disk you will find two small spots burned on the surface

of the media. When the program loads, it attempts to write on this track, possibly by formatting it. If the write is successful, with no errors, the program will know that it is not the original, damaged disk and will prompt you for the key disk. Otherwise, if the data is faulty, the key disk is recognized as "good" and the program continues to run!

To back up this disk, just use your favorite copier program (don't forget to open the window on the original) and make a couple of scratches on the copy in exactly the same locations as on the original. Use tape to hold the shutter open during the operation, and note the position of the sector hole in the metal-hub. Be gentle when scratching the disk; if you press too hard, the disk will deform, causing your heads to bounce while loading!

This series of music lessons is the only place I have seen this form of copy protection; except for the hassles in making a backup, it is a fine way to learn about music. I hope this info will be of use to all who have bought the set.

Paul Even
Philadelphia, PA

Thanks for Deskjet Tips

Dear Editor,

My thanks to Paul Pokorski for his tips [regarding the Hewlett-Packard Deskjet 500]. I have managed to slip the labels made for dot matrix printers through my classic jet, but always with the worry about what I would do if one came unglued and jammed the works. I'll go right out and buy the labels he suggested.

My classic Deskjet was upgraded to the 500. It was annoying to have to buy a new Epson FX80 cartridge because the old 22707e has to be a 22707f. I do not program and make drivers, so it is easier to buy the cartridge to use for all the PD that have Epson drivers.

When my doctor finally gave me a needle to try refilling the ink cartridges, I then could no longer find NONwaterproof ink available. Mr. Pokorski might investigate the companies offering refills with green, red, blue or black ink...two refills for \$19.

Georgia Weatherhead
Fairfax, VA

P.S. I don't have the problem with Word Perfect and the printer that Mr. Pokorski has. My printer turns on before the hard drive. WP accesses it with no problem. I use a 520ST.

Atarians Fight Back!!

[We received several letters concerning Darek Mihocka's letter in the March issue, including some on the *Current Notes* area of GENie. A few readers took the time to explain, quite eloquently, why they have chosen, and stick with, Atari computers. Here are some samples from Atarians who are proud of the computer they use and not at all anxious to change. -JW]

Dear Joe:

In view of recent Atari bashing by defectors to world of popular computing self righteousness I would like to express some views based on my own experience as a general purpose computer user. I believe that for many users the ST is a better choice for a personal computer than a PC.

I have been using an ST on a daily basis both at home and at work for several years for a wide variety of engineering problem solving, system modeling, and documentation. My ST systems are very basic and cost effectively address my needs. The hardware configuration is a 1040ST with monochrome monitor, 1mb including word processing, spread sheet, 2-D CAD, Telecommunication, and *GFA-Basic*.

I find the ST simpler to set up and use in its most basic configuration than a PC stuffed with expensive hardware and software options. I tend to agree with Mr. Wrotniak (Jan/Feb issue of *Current Notes*) that setting up and using a PC can be a very complex and confusing affair to someone who simply needs a problem solving tool. I seem to spend considerably less time fussing with my ST than my associates spend with their PC's to execute similar applications.

It seems to me that much of the elegant simplicity of the ST stems from the memory organization. I am not a professional programmer but the ST's large (1 Mbyte or more) linear address memory space must be very straight forward for developers compared to the 64kbyte of the 286 PC. Of course, the 386 and 486 PC's have addressed this problem from the hardware point of

view. However, it appears that much PC software does not take advantage of the 386 memory capability. Since the 386 will run 286 code but a 286 will not run 386 code PC developers who want to sell to both 286 and 386 markets must either support two versions or offer only 286 support.

I have found that the type of application programs I use are considerably less expensive for the ST than comparable programs for the PC (typically a factor of 2 or 3). PC software that truly supports the 386 memory capability is even more expensive.

Of course, there is a considerably larger selection of software for the PC but there is an adequate selection of quality ST application programs to support many users.

I have found sufficient level of compatibility between the ST and other computers. The capability to read and write PC floppy disks with the ST provides a means to interchange at least text files with PC systems. Communications software provides a means to interchange text files with mainframes. The LDW spreadsheet program also provides spreadsheet compatibility with 123 on PC's.

As a general purpose user I find the ST performance (speed of execution) to be quite adequate. Of course, there are applications, (such as 3-D CAD) for which higher performance is desirable if not required. While the TT may not offer the ultimate performance of some high end PC's it does extend the ST family to address some of the higher end applications.

I would argue that for many general purpose computer users like myself the basic ST is more easily used and a more cost effective tool than a PC. A basic ST system is relatively complete for many users and straight forward to set up and maintain. You will need the courage to break away from the herd and logically base your choice on capabilities, needs and cost rather than the emotion of popular computer self righteousness.

On the other hand, I would not argue against the choice of a 386 PC for high end applications like large databases, 3-D CAD, special stimulators, etc. or if there is a true need for complete PC compatibility.

Don Cutler
Portland, OR

Dear Joe,

I have recently finished reading the March issue from cover to cover and would like to comment on a particular part of it. I'm sure that I will not be the first person that you get a letter from concerning Darek Mihocka's letter, nor will I be the last, but I thought that I needed to reply.

First, I would like to say THANK YOU DAREK! You are doing the Atari community a great service by saving ourselves from those evil, vile hordes in Sunnyvale. It's not everyday that a poor, suffering computer user, such as myself, can find such a ray of light in this dark, sticky mire of computer overcharging, vaporware, and unfulfilled promises.

Yeah, right.

While Mr. Mihocka's letter didn't bring up any real sore spots that I have concerning the STs, I did read some jarring inconsistencies that made the letter quite amusing to read.

In his third paragraph he talks about the performance of his *ST Xformer* on the TT, and how he was disappointed in the result. Fine, but then he compares it to the PC version that he is currently writing in optimized 386 code. He goes on to say that the TT doesn't have any development tools for it yet, so it appears that he is comparing 68000 code running on a 68030 with 386 code running in 'native' 386 mode. Oh, that was an even race. Next, we'll tie the 68030's RESET pin to ground and run the test again. (Well, gosh, look at that! The TT's slower than dirt, duhhh). In the same paragraph he states that the TT is simply a "fast ST." To hear that coming from a PCer is EXTREMELY humorous. From what I see, about 95% of the software boxes on the shelf have "PC/XT/AT/386" on them. Seems to me that with a "100Mhz 486" tucked on my desk my neighbor with a 4.77 Mhz XT can run that same 95% of the software, ONLY SLOWER! The 486 is being used 95% of the time as a, get this, FAST XT.

In the next paragraph he tells us of his views on the 386/PC domain vs the ST. Interestingly, he compares the 80386 as a processor capable of addressing 4 billion bytes (impress the hell out of me, put more than 30 Meg in a PC), to the ST as a computer system. The 68000 can address more than the 4 Meg that Mr. Mihocka states, and is

only being held back by Atari's MMU. Frankly, if my data required more than 4 Megs of space, I probably would benefit from a faster processor such as a 68030 (preferably with a 68030-coded database, so I couldn't be accused of running a *Fast ST*).

As a developer, I'm sure Frank wants his software used by the maximum number of people possible. This means going to the lowest common denominator, the 64K limit folks, the XT folks, the people who still live in the CGA WORLD!! Oh, save us (did someone fall out there in the back row?). If I were a developer, those would be my bread and butter people.

Oh, and please, don't start throwing numbers at people about how many more PCs there are, and such. Numbers never tell the whole story. How do you spell "real numbers," NINTENDO? Oh, but Virginia, Nintendo's not REALLY a computer, is it? EVERYTHING is always more than something and everything is always less than something, it just depends on whom you're talking to, what you're talking about, and finally, what's at stake.

Finally, a few thoughts of my own. Personally, in the big scheme of things, I could care less about what sort of computer someone owns. However, what I don't need is someone letting me know they are doing me a *favor* by telling me my computer can't cut it anymore. Well guess what? In the time it's taken to read this letter, everyone's current PC may have just gone obsolete. You will NEVER have state-of-the-art in the computer industry. The best you can hope for is a good, reliable machine that does what you want it to.

Anthony Rudzki
Eglin AFB, FL

Atari-ST RoundTable, Category 15,
Topic 2, Message 37, Mar 14, 1991
D.A.BRUMLEVE [kidprgs]

To the Editor:

Lately it seems like every ST-related journal is printing one item after another by Darek Mihocka (CN March 1991). The apparent goal of these treatises is to convince me and other ST users that we've made a terrible mistake: we have chosen the wrong computer. Our poor STs are simply too slow, too low in resolution, too weak to do all the wonderful things the MS-DOS computers can.

Our computer manufacturer has failed us, third-party software developers have failed us, our computer has failed us.

But Darek Mihocka will not fail us! No, he "supports" the ST and its misguided users! To help us into the world of the IBM, he is now preparing the *GEMulator*, an ST emulator for the PC. Once we upgrade to PCs, as Mr. Mihocka feels we all must eventually do, the *GEMulator* will enable us to eke some final use from our outdated and feeble ST software. This product will ease us gradually into the PC world, so that we are not overcome with shock from the exhilaration of sudden speed and power.

Mr. Mihocka is disappointed that 8-bit software won't run on a TT (using his emulator, *ST Xformer*) any faster than twice the speed it runs on an ST. This certainly is good reason to avoid the TT, as Mr. Mihocka will. Yes, indeed, the ST/TT family of computers is a disappointment, but Mr. Mihocka offers hope: we can trade in our current computers for PCs, on which (thank goodness!) 8-bit software will run 50% faster. I can't argue with that logic.

Ideally, says Mr. Mihocka, all current ST users should sell their STs and buy PCs right now. In Mr. Mihocka's eyes, there exists this large group of ST users who would really rather be using PCs, and if they could only afford to do so, they would. Perhaps they will be ready to take the plunge when the *GEMulator* is finally shipping. Mr. Mihocka also alludes to another group, those whose needs are so simple and whose desires so routine that the ST (incredible as it may seem) actually *can* meet the demand! Mr. Mihocka's advice to them: "If you are one of these people and are perfectly happy with your machine, then stick with it."

That's good advice, and I, for one, intend to follow it. My simple-minded *Calamus* provides the best desktop-publishing product around, and I will certainly settle for the best. My ST version of *GFA Basic* costs *hundreds* less than GFA for the PC, and I am certainly willing to pay less for the same software. My *HotWire* and even my basic GEM run windows around *Windows*. My ST also provides something else, something money simply cannot buy, something emulators cannot emulate: a sense of community within our small and intimate Atari "pond." I

haven't made a mistake in my choice of computer, and I won't make the mistake of buying a PC.

Mr. Mihocka writes, "I don't want the users to suffer any longer." I have at last identified the source of *my* suffering. Please, Mr. Editor, reconsider printing future letters of "support" from Darek Mihocka. Thank you.

D.A. Brumleve

Atari-ST RoundTable, Category 15,
Topic 2, Message 42, Mar 17, 1991
S.FARWIG [STAN]

While I am not a subscriber to *Current Notes*, I do purchase it faithfully every month and have long considered it the best source of information about Atari computers. I also support unbridled freedom of speech, access to the media and, after several exquisitely painful encounters with meddling editors, applaud the absence of appreciable editorial intervention. There are, of course, instances that sorely test a man's adherence to his principles; instances such as KKK rallies, sexist standup comics, TV ads for hemorrhoid preparations, Darek Mihocka.

I quite choked up at Mr. Mihocka's disingenuous proclamation at the close of his letter in your March 1991 issue: "...I don't want the users to suffer any longer." Aw gee, an Albert Schweitzer, Jonah Salk, Mother Teresa kind of guy. Once the tears were in check, I found myself muttering: "Who does he think he's kidding?" The sort of double-dealing he indulges in this opus may earn him kissy-points with his new employers, for effort at least, but it will hardly earn him the affection of knowledgeable Atari users.

For one thing, Mr. Mihocka now has a strongly entrenched interest in hawking IBM type computers and any observations and charges he cares to make about Atari products are liable to be suspect.

Of course, if he can pick up some spare change in the Atari marketplace with his projected emulator while shilling for MS-DOS burdened machines and attempting to screw Atari in the process, well, hey, who cares about conflict of interests, scruples and boring ethical questions. Given his particular bent in these areas, Mr. Mihocka should find happiness and fulfillment with his present employer and be granted ample opportunity to hone his

skills in industrial sabotage. Certainly his employer will have the savvy not to turn collective backs on him.

(Golly, Mr. Mihocka, how could you suggest there might be those who "hate" MS-DOS or the *Windows* desktop? That's as unthinkable as folks who might feel repugnance at certain of your company's reported practices and game plans or those of the jowly blue giant it has by the balls.)

As for his projected emulator, well, Mr. Mihocka probably has many reasons to "no longer care for or have faith in the people at Sunnyvale," and possibly among these is that he has several times been warned that any infringement of Atari patents and copyrights will be prosecuted. One of these warnings quite rightly pointed out that his present employer would certainly sue if MS-DOS were disseminated without a licensing agreement.

Mr. Mihocka seeks to enhance his sales pitch with an account of his bitter disappointment with the TT and its speed; an account that seems at odds with that of Dave Small in *START*, February/March 1991. I shouldn't think there is much of a problem in deciding which of the two is the more reliable commentator. While I am far from being proficient in my grasp of technical information on computers, if I read Mr. Mihocka correctly, his "benchmarks" of the TT were obtained using software designed for the ST. Excuse me, but wouldn't fairer, more accurate "benchmarks" be obtained using software designed for the TT's environment? But perhaps fairness and accuracy were not the point.

If I read Mr. Small correctly, Atari took some pains to produce a thirty-two bit machine that would be compatible with most existing software for the ST as well as accommodate a new generation of software ... a courtesy and constraint I seem to recall his new employer did not labor under while producing a new operating system for his captive client (and let us not be snide about "products that ...ship very late.") So if, as Mr. Mihocka grants, these ST programs ran twice as fast on the TT, it seems to me that Atari succeeded admirably in their goal.

Again excuse my lack of technical expertise, but I seem to recall reading that "benchmarks" are comprised of specifically designed codes recognized to test various functions of a computer.

Does running any old piece of software and clocking in some unspecified manner constitute an acceptable "benchmark?" It seems a procedure fraught with ambiguities and lending itself to copious misrepresentation.

Please don't misunderstand: I am far from being a wide-eyed fan of Atari's corporate policies. I read Frank Sommers' comments with a nod, a wince and a depression lightened only by admiration for his well-wrought prose ... and without rancor. That is because they do not reek of self-serving sophistry and poorly hidden agendas.

Should Mr. Mihocka be sincere in his desire to alleviate suffering in the Atari community, this desire would best be served by having him withdraw from that community, pull his ads and his programs, drop his posturing and allow himself to be fully resurrected beyond those pearly Gates and into that Big Blue Heaven that so richly deserves him. We poor Atari users have enough headaches with the company that is presumably dedicated to our computers' preservation without having to endure agent provocateurs dedicated to its demise.

GENie: Well-Attended

Atari-ST RoundTable, Category 15,
Topic 2, Message 36, Mar 13, 1991
D.A.BRUMLEVE [kidprgs]

In his March 1991 column, the Junkyard Pussycat completes his report on the major online information services with a discussion of CompuServe. He describes a conference featuring Atari's Bill Rehbock, which was attended by "about 20 people" in a "nice, orderly gathering." Then the Pussycat muses, "The same conference on GENie would have been a zoo."

Hmmm. A zoo? There are formal conferences on GENie, too, and I don't find them nearly so beastial. I must concede, and I'm sure the Pussycat will agree, that such things are a matter of taste and personal preference, and one person's zoo may be another's art museum or institute of technology. But surely there is a generally accepted range of "zoodom," and I doubt that a formal GENie CO falls within its cages.

As one who has spent time (happily) on all three major online, I would have completed the Pussycat's

sentence this way: "The same conference on GENie would have been very well attended."

8-bit to IBM--Help!

To Whom It May Concern:

I am writing in the hope that you may be able to help me with a problem that I have regarding my computer. For a number of years, we have been using an Atari 130 XE computer with *Paperclip* as a word processor. This past summer, after an electrical storm, the computer no longer would print to the printer. While I can still use the computer to edit, create and save documents to the disk drive, I cannot print the document. I have tried replacing the printer and that did not correct the problem. I tried to replace the computer, but discovered that it was impossible to find anyone who still had any in stock, or to find anyone who still supported Atari products. Accordingly, I purchased an IBM compatible computer (Tandy 1000 SL) with 640K of memory, two disk drives, and a 20 MB hard drive. Beside the word processing software that came with the computer (*Text/Deskmate* and *Homeword*), I am running *Microsoft Word 3.0*. I am very satisfied with this system. At work I am using a Macintosh IIcx with *Microsoft Word 4.0*.

This brings me to my problem. My wife is a high school history teacher and a graduate student who has completed all of her course work and is now working on her dissertation. She has at least 20 disks full of her graduate research work and lesson plans, quizzes and tests from her job. We need to be able to access and make hard copies of the material on the disks. Is there any way we can transfer this material so as to be readable and printable by either of the computers I now have access to?

I would gladly purchase whatever I need to enable me to salvage these documents, but I don't know where to find a solution. I thank you in advance for any help you can offer.

Richard L. Lombardo
908 Glenroy Rd
Philadelphia, PA 19128

[Well, CN Readers, Dealers, who would care to give Richard a hand? There are several solutions.]

Atari's New Niche - CEPS, Atari in the Future, a Dealer's Inside View and Hats Off to L & Y Electronics

Litigate, Litigate

Atari has always been quick to threaten to sue. Sometimes it is to counter a legal threat against the company. Most recently, however, they tried on Nintendo U.S., that company that was making Big \$ (read a \$Billions) in the game market. Atari wanted to slice into the action and sell game carts for the zillions of Nintendo machines out there. Why not? You're in business, first and foremost, to make money, most say. Well, it didn't work. Near the end of March Nintendo won a preliminary injunction against Atari, stopping them, for now, from harvesting profits from somebody else's machine.

Then immediately on the heels of that court decision, in a different case, came a judgement against Nintendo and its marketing practices, which forced it to pay millions of dollars back to its customers, including a \$5 coupon to each person who had bought their machines.

Worth Reading

Besides our own Dave Troy, author of the CN "Myths and Mysteries" column, there is now another dealer turned columnist. Herb Parsons is starting up a regular column in *ST World*. The difference between the two seems to be that Parsons will write largely about Atari through a dealers window. He purports to decry both the "doomsayers" and the "candycoaters" in the Atari media, and voices "the frustration of hearing ... statements that make it clear that many people, from end-users all the way to the upper echelon at Atari, don't truly understand what it takes to be an Atari dealer."

Herb, whose dealership is MegaByte Computers of North Texas, did a stint selling computers for Federated and stayed with them through their Atari days. Those of us who are interested in how an Atari dealer survives and what does him in fastest will read Herb's col-



umn in *ST World* with interest. He starts well, recounting Atari's past dealer practices and suggesting that they have to modify their present plans, if they expect their specialty dealers to make a living: "...face it folks, a dealer can't make a living selling strictly TT's and service ... giving the mass-merchants the 520 ST, 1040 STe, and Mega STe's would deny the dealers the opportunity [to make a living]. We CAN'T survive by selling computers at a 10% profit."

Chicago in the Spring Time

With the above words on profit in mind, we find Atari appearing for the first time, in three years, at CEPS, the Corporate Electronic Printers Show in early April at the historic Trade Mart. There they spread the word they intend to have "Key Dealers," (to be or not to be -

confused with "Strategic Partnerships," Atari's most recent encomium for its preferred general dealers?). These Key Dealers will be trained to be knowledgeable about the equipment it takes to go from paper to commercial print of a high order.

Many of the "raves" about Atari's participation in the show and the loud oohs! and aahs! about their machines failed to note that this is not a CcBit or a Comdex, a stadium of halls and rooms that frontispiece the printing industry of America. Rather, the entire show fills a building the size of a high school gym and there in one large 20 foot by 20 foot space was Atari.

They had a well-integrated, well-thought out package, but with a price tag. The new press releases carefully skirted any idea of power vs. price. Their booth premiered three main developers, Goldleaf of *Wordflair* fame, Softlogic and their *Page Stream 2*, ICD with its mighty *Calamus*. Despite a visible flatness, noted by several, of the TT monitors, the tricks produced on them drew considerable comment from the serious crowd in evidence.

One of the troika, with a track record for being a strong Atari supporter but with an equally strong critical faculty described it as, "...Atari's most professional performance to date."

Now remember, we're not talking about the usual Atari computer that you recruit the other half of the family to "want" as much as you do, or which you smuggle into the house and hope will gradually blend in with the rest of the furniture.

Atari's CEPS package has a color separation of 133-150 lines. Its motto is "Direct To Press" and Atari's new slogan is "Complete Publishing Solutions--No Compromises." And that spells \$38,000 per package. This doesn't mean the TT has gone up in price. No, the TT at \$3499.95 with a TTM194 19" ECL monochrome monitor for \$999.95 (notice the comfort factor of those nickels) with another several thousand for software barely get you 1/6th of the way there. It's the other part, the high resolution image setters, (not 300 dpi but rather 3000 dpi) such as those from Hell systems, or AGFA Compu-graphic 900 series or the Linotype L100, L300 and L500 that bring you up into the real world of monies, the \$30,000-\$50,000 big change arena.

Macintosh has a system using Bridget image setting equipment that went for almost \$10,000 less than Atari's package. Well aware that this was serious money, Atari had altered its image a bit. Such slogans as "Touch the Future" and the "Professional Systems Group" banner on the booth, with Atari Corp.'s name submerged in small "print" was all part of the competent and successful effort to "play with the big boys."

Most reports and eyewitness accounts conclude that they pulled it off. Atari had people talking. Talking about competitive, even superior "output" in terms of quality, if not so much in price.

SoftLogic was running *PageStream 2*, which reportedly will ship in about two months. (One report noted that, all told, SoftLogic had sold about 26,000 of their DTP programs for Atari in the last five years, whereas in the last two years they had sold 24,000 sets of the program for Commodore's Amiga.

GoldLeaf was representing, in addition to *WordFlair*, a panoply of European products from 3-K, a distributor relationship formed very recently and suddenly. The line included *Retouche* (every hear of

Touch UP) at \$400 and *Retouche Professional* at \$1,000. *Didot Professional* and *Didot Line Art* rang in at \$1,000 and \$800. *Sherlock Professional*, another image editor, was just under a \$1,000. The only image editing package that might find its way onto our DTP systems was *Sherlock* simple at \$200.

The usual stalwart, *Calamus*, was dancing away on the large monitors and turning out an impressive finished product in *Postscript*. *Calamus* in color had not only eye appeal, but made those of us who heard about it wonder when? When can we hope to see it on our less costly system. According to ICD, Canada, both *Calamus SL* and their new program *Cranach Studio*, an elective bit color manipulator, will be in our hands by July.

In sum, it appears to have been a credible performance by our Atari. There was some criticism that cost and lack of more advanced storage devices than Atari has at present would keep it from becoming a regular. The phrase worn question of marketing in an arena with bigger brothers still raises the prospect of a major obstacle--unequal marketing facilities. Atari counters, saying they plan to train "Key Dealers" to be able to sell and support this level of sophisticated and expensive systems. We would only hope that that might prove true.

And who was the mystery guest? There was a gentleman, marching around the show, wearing a badge that entitled him to be Sam Tramiel, except that he was some 8" taller than Mr. Sam and he had a head of red hair.

Miles into a Crystal Ball

What will be the fate of Star Wars and Atari in the next decade? Last December we suggested what it might be by the end of the year in the U.S. Now, in a penetrating look at what makes a computer survive and thrive, a British Atari author, Miles Monroe, has taken the leap into a glimpse beyond the here

and now, but, it seems to us, from quite a stable and informed platform. His predictions in the March issue of ST User touch on the novel, e.g. "maybe in five years the wrist mounted Mega with the high definition LCD 1040 x 1040 screen, 300 Mb hard drive and battery life measured in months, not minutes, will be a reality..."

But with a sense of history and apparently sophisticated understanding of the computer market place, he points out that nobody would have predicted how Clive Sinclair in Britain would single-handedly create a home computer market with his affordable ZX81 computer. And market it, Sinclair did, by advertising it widely in a variety of national media, not just in "electronic and propeller head" magazines.

He suggests that we might think a global company like Atari could afford to gamble some cash on an entirely new machine. Nope. Atari and the other big silicon suppliers "are precisely the people who don't take risks. Atari is described as "one of those not-quite-big-enough companies," which, if it takes a risk and fails, looks stupid. (And indeed, how often, have we been quick to note same.) Unlike IBM, "which consistently lays to waste dollar mountains bigger than the GNP of many South American countries, yet manages to produce enough good products to keep it going," Atari just can't gamble with their cash.

A former Atari manager confirms this, when he noted to us a year ago that Jack Tramiel decided to bet only a small part of his "chips" on the ST. If he had decided to bet it all, the ST could have become a dominant U.S. computer.

But continuing with Monroe. Atari, he believes, is right now developing products which would, if we saw them today, "knock your socks off," but when they arrive at some point in the future, they will appear as part of the advances all computers are making. (Witness-

ing the arrival of the STNotebook and the STPad, causes us to think this guy is something of a prophet.) No intelligent computer manufacturer brings out a computer until he smells a tingle in the market for such a device. No one, he claims, invents a new machine. Not Atari, not IBM, not even Steve Jobs. They take the peripheral hard and software of other companies, "such as Motorola's chips, Sony's drives, Japanese RAM, a Japanese-invented musical instruments interface, a Microsoft's graphical answer to the Mac and bundle the unwholesome conglomeration into a tidy little grey-plastic case for a reasonable price."

Monroe believes that Atari has such packages in its palace and when the moment is right, will lay them before us. He suggests that the early, too early introduction of CD-ROM, has taught them the importance of introducing no computer before its time. And when is "a computer's time?" When someone else has shown the time is right. He suggests that you'll see portable LCD display game consoles, handheld DOS-compatible computers--even Mega's on the wrist, but only if someone else takes the risk first. His final prediction! "... Atari will finally get its promotional act together and begin to sell the ST in the same way that Apple, NeXT and even Commodore have, and begin to give the ST the recognition and market it so richly deserves."

When a Crash Would Be a Real Crash!

Those of us who have survived a recent hard drive crash know the agony and labor of restoring the files and trying to somehow re-find or replace those that were not backed up. But once the perestroika is finished, we become quite nonchalant about "crashes," mouthing phrases to our just "wounded" brethren about how computer malfunctions are just part of the territory.

Last month Soviet computer experts were monitoring their space station Mir as the computer directed it into a docking situation with an unmanned cargo module. As they watched, the computer, instead of docking it, was steering the space station on a collision course with the cargo vessel. With a lightening stab of his finger the ground controller overrode the computer. The space station, Mir, missed ramming head on into the module and killing both astronauts by less than 40 feet.

Wonder what his hard drive looked like afterwards.

...Atari will finally
get its promotional
act together and ...
give the ST the
recognition and
market it so richly
deserves.

Tax Advantage-- Wherefore Werc't Thou?

The Ides of April has past but not without some trauma. As we noted last month, those of us who did our taxes using that superlative ST tax program, *Tax Advantage*, had to look elsewhere.

One of the most talked about programs extant was Machintosh's *MacInTax*. Touted as a powerhouse, which would do everything you wanted and then redo it, if you wished, it was our last minute choice. Having nervously plugged in the GCR emulation cartridge, we smiled as the little grinning face of the Mac monitor appeared on our big Viking Moniterm screen. That was about the last time we smiled, until we hit the post office slot some 48 hours later than we should have.

MacInTax is to *Tax Advantage* as *Calamus* is to *Publisher ST*, a

powerhouse indeed that can recalculate variations in deductions and filing choices to insure you the best "numbers," and even port those numbers over to your state tax form. But it is not intuitive! It also has a bear of a learning curve. For the non-Mac familiar operator it can produce loads of operator shock, as it shifts from the state owing you \$2,498 to you owing them \$5,999. It also can refuse to allow changes until you blow away the form and start all over again.

So next year, is it the IBM way with Supercharger and *Turbo Tax*, touted "as a powerhouse" ... ?

Hats Off, L & Y

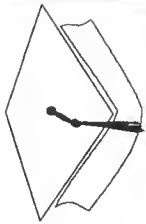
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the 8-Bit Alchemist

by *Ben Poehland*

Audio Potpourri

As usual, I'm writing this a month before it actually sees print, so the stuff you read here is already a tad musty. That's pretty good, really, for a monthly periodical like this. The British magazine *8:16*, for example (which recently joined *CN's* exchange program), just reported on the October 1990 WAACE AtariFest in its Feb./Mar. issue. Of course, *8:16* is a quarterly, so the comparison is probably--ah, a bit unfair. This new collaboration between *CN* and our cousins on the other side of the Big Pond was just one of many events in March.

March Madness

Fact is, the past month has been a madhouse around here. We Alchemists are a bit looney to start with, and terrible housekeepers, too. Add a madhouse to that, and you get the shambles that now passes as my living room. Why all the chaos? Well, in case you didn't notice, there's a lotta stuff in this month's issue on 8-bit stereo audio (and more to follow in this column). Pulling that material together took a bit of doing: I gave up taking off my Editor's Hat and just started wearing the green eyeshade thing to bed. Then there was the mail--a regular flood of it, in my mailbox and over the networks. The usual stuff--questions, suggestions, comments, etc.--was more than normal, but to be expected during the cold months when folks spend more time indoors. But it was the response to my appeal for "A Few Good Reviewers" in the March issue that blew me completely away.

More Than a Few Good Reviewers

When I issued my plea for reviewers, I figured I'd be lucky to get three or four kindhearted souls to step forward and volunteer their services. After all, you know, 8-bit technology is obsolete, the machines are slow, there's no support, the market's gone down the tubes, there's no new software, no one uses them any more, blah-blah-blah.

Friends, don't believe it! The first couple responses that came in, I thought "Gee, isn't that nice, I actually got a few people to help out," and I took the time to respond to those folks individually. There was a lull, and then on one day I received one INTERNET response, two on GENie, and two in my mailbox. More than I had time to read, much less respond to. In the following weeks more responses arrived, and even now (the first week of April), letters and E-mails are still trickling in. I quit counting around 20. At the moment there is a fair stack of unanswered mail on my desk. It would seem you 8-bit people just won't die off the way you're supposed to.

I'm now faced with the bewildering task of actually having to turn people away. I've decided to give highest priority to people whose interests are totally (or predominantly) 8-bit, who have the most sophisticated hardware, and who are accessible on either GENie or INTERNET. Even if I whittle the final number down to, say, 10 people, at the moment I only have a few programs to distribute. Six months ago I had software and went begging for reviewers. Today I got reviewers to the horizon and practically no software. Arrrrgh! So, you software distributors out there in the Land of the Twilight Market, my address is at the end of this column. <Hint! Hint!>

We Alchemist types are generally a crusty bunch, but I must say I was deeply touched by the

outpouring of response to my March column. To all of you who took the time to contact me, a heartfelt thanks. And be assured, I shall personally contact everyone who responded to let you know whether your name has been added to my Reviewer's File. It might take awhile, though. The shadow of April 15 is approaching like the crack of doom, and the Guvermint doesn't spare Alchemists.

Newsbytes

Jim Glenn has released a new game into the shareware market, VALGUS². He's running a special, \$8 for the disk until May 27. You can download a demo version of the program from the Atari 8-bit RT library on GENie (VSQDEMO.ARC, file #5350) or from the Atari 8-bit SIG on CIS, Library 10, VSQDEM.ARC. If you like it, send a check to James R. Glenn, Jr. 8252 The Midway Annandale, VA 22003 for the full program. And look for a review of VALGUS² in CN in the months ahead.

Looks like AIM's ambitious attempt to start an 8-bit monthly disk in March didn't quite fly. In fact, their March issue was late. Word is, their 8-bit monthly disk will start in April. We'll see. (Joe Waters just loves it when I use the pages of CN to plug the competition. Hi, Joel)

Twilight Sources

Only one new source this month, but it's a doozie. If you're one of those people who is fed up with the video game image of the Atari 8-bit and yearn for some serious professional, technical, scientific, engineering, math, educational software, you gotta check this one out. I'm talking about the DYNACOMP catalog [DYNACOMP, Inc. 178 Phillips Road Webster, NY 14580]. They take AMEX, VISA, and MC. Give them a call, toll free at 800-828-6772, and order a subscription to their catalog for only \$3.50 (for info, try 716-265-4040, 9AM-5PM EST). Believe me, \$3.50 for this catalog is not a ripoff. This is no wimpie thing, I'm talking 230 pages of goodies here. Regrettably, not all their programs are for the Atari, but there's enough to make it worthwhile. And for me, their offerings in scientific and engineering subjects were a real treat. Audio freaks will slobber over the Fourier Transform software (Atari screens are used to illustrate filter curves and FFT profiles of harmonic signals). Prices generally run \$15-\$50.

DYNACOMP is not like any of the other outfits I've covered in this column, in that the company is a general software distributor, not Atari-specific. So if your 8-bit Atari shares a stall with an IBM, Commodore, TRS-80, Apple II, Mac, or any of a dozen other machines, the catalog is that much more valuable. (You ST people, forget it; I counted only two ST programs). Many of the programs are available in multiple formats for the different machines. In

addition to Atari software available under the many individual subject categories, there are three pages of Atari 8-bit specific programs in the back. There's a lot of PD stuff at \$7.95/disk (not a good bargain), but there's also the entire ANTIC PD collection (67 disks) with quantity discounts available.

One last thing about DYNACOMP, then I'll quit raving. This company actively solicits programs for its inventory and pays royalties to authors. So, you starving 8-bit programmers, take heart! Give DYNACOMP a call; you can't lose.

Gumby: What's in a Name?

A few folks have commented that "Gumby" seems an odd name for a stereo sound upgrade on a computer. Now, I haven't asked Chuck about this (and if I'm wrong I suspect I'll be hearing from him), but here's my theory.

Gumby is a kid show, one of those Saturday morning things (like, REAL early, if you're into "Captain Noah and the Magical Ark"). The protagonist of the show is this tall, green, blocky claymation figure named Gumby who goes around having a lot of goofy adventures. Gumby has occasional encounters with various figures such as Spike, a yellow dinosaur (or dragon, whatever), and the Block Heads who look remarkably like kids' building blocks. Every protagonist needs a sidekick, and for Gumby it's his horse, a red horse with a black mane. The horse's name is Pokey. Mostly, Pokey just follows Gumby around, but every so often Pokey gives Gumby a ride. So, GUMBY sits on top of POKEY. Clever, huh, get it? Oh well, I tried.

Tips on Gumby

I upgraded one of my 800XLs to Gumby stereo. Neat-O, it really works. Along the way I encountered a few details I thought I'd pass on.

When I went pawing through my junkbox for parts, I found I didn't have either the 74LS14 or the 74HCT14 specified in the parts list. However, I did dredge up a plain-vanilla TTL 7414, so I used that. No problem, it works fine, the chip function and pinout are identical to the specified chips. The main difference is that the 7414 draws about four times as much current to do the job, and it does run a bit warm. The few extra milliamps of current consumption should not make the slightest difference to your machine's power supply.

Regarding the coupling capacitors (item #5 in the Gumby parts list), I recommend you purchase the larger value capacitor-.1uF Depending upon the input impedance of your audio system, the smaller (.01uF) value might cause some rolloff of bass response, resulting in a "tinny" sound. In fact, even larger values--up to 10uF--will ensure best bass response under just about any conditions (larger than 10uF is a

waste). If you want to use the larger values, I recommend switching over to a tantalum type (available at Radio Shack). This type of capacitor is polarized. The minus lead goes to the center conductor on the output jack, and the + end goes to the wire bringing the signal from the motherboard.

Chuck was a bit vague on exactly where to install the output jacks. On my 800XL, I installed these in the rear panel space above the parallel bus cover plate. (You XE folks, sorry, you're on your own.) You can use just about any shielded wire to connect the jacks, but the Radio Shack stuff in the parts list is a very thin, flexible type wire that is most easily manipulated. On the XL, the best place to bring out these wires through the RF shield is the upper right corner, where there is already a crack. (If your machine already has the Newell OS/RAMROD installed, you're home free.) Just bend the shield open slightly and apply some vinyl tape to the sharp metal edges (to keep it from cutting the wires). Since I'm always opening my computers up, I installed inline connectors between the jacks and wires so I won't have to desolder the jack connections each time.

Before installing the output cables, it's a good idea to give some thought to where you will pick off the output signal. The instructions say to solder these cables directly to pin-37 on the respective POKEYs. I prefer to minimize soldering things directly to chip pins whenever possible. In my installation, I soldered the output wires to the signal ends of R80 and R80A. I recommend you measure, cut, and solder the output wire to R80A before installing this resistor. Attach the wire close to the body of the resistor, and leave the resistor leads long. Fit the resistor into place with the output end closest to the chip. Solder the board connection (+5V) first; this connection supports the resistor while you bend the other end into place for a quick solder to pin-37 of the upper POKEY. Following that procedure, you only solder to the pin once. You can pick up the left channel output at R80: in the 800XL R80 is to the left of POKEY between U18 (74LS08) and U19 (74LS14). On the 130XE, R80 lies between POKEY and U2 (74LS138). If you end up with no sound in the left channel, you connected your wire to the wrong end of the resistor.

I think you can pretty well forget about the optional 50K trimpots. Their function is to trim the output levels in case you are using an audio amp lacking volume/balance controls. Due to manufacturing tolerances, the extra POKEY chip might have a lower or higher output than the original. The extra POKEY I installed was of greatly dissimilar manufacture from my original, yet its performance was identical. The installation of these pots is a pain, and you will be better off to run your wires straight out to the coupling caps. Then use a stereo amplifier equipped with all the usual preamp controls. If you

don't have a suitable stereo amp around, you might want to try the Alchemist's solution: Cheap Audio.

Cheap Audio for the 8-Bit

In the June 1985 issue of the now-defunct ComputerSmyth magazine I published a little LM380-based audio amplifier circuit for the XL that you could build for about \$25. Wouldn't you know it, by the time the article appeared in print, Radio shack had discontinued the LM380 and introduced a little amplified speaker you could buy ready-made for \$11.95. Radio Shack still sells them, same price.

It's their catalog #277-1008, a cute little thing that looks a lot like a mouse. I've been using them in several of my XL-based systems for a few years. Sound quality isn't what I'd call "full, rich fidelity," but for the price they do a credible job. Even if you don't upgrade your machine to stereo, you can use one of these speakers to add audio if you are presently using a soundless monitor. If you're using one of those multi-RCA-plug terminated cables in your A/V jack, you'll need an RCA adapter on the audio plug (RS #274-1553, pkg. 2/\$1.39) plus an RCA-to-1/8" mini plug cable (RS #42-2444, \$2.19) to bring the standard 8-bit audio signal out to the little speaker. If you installed Gumby, Gumby's left channel is the standard audio signal that also appears on the A/V signal bus. The little speaker has its own volume control and power switch.

You have a variety of choices for powering the little speakers. They take 9V batteries, a route I don't recommend. Even though these units are efficient (the circuit is based on a Japanese knockoff of National's LM386 chip), in constant use with your computer you can expect to replace batteries every few hours. You need a screwdriver to remove the rear cover to get at the battery: not fun. In my units, I cut out the battery snap altogether and filled the battery compartment with assorted junk hardware, lead fishing weights, etc. held in place with silicone or hot-melt glue, to give it some mass. Plus some of those stickem-on rubber feet on the bottom, to keep it from sliding around.

My preferred method to power the speakers is a plug-in 9VDC/300mA power supply also sold at Radio Shack (cat. #273-1455, \$7.95). Ugh--one more thing, more wires, to plug into your already overloaded power strip. And for stereo, you need two of everything. You can save yourself a few dollars and a few wires by powering both speakers from the same power supply using a Y-adaptor cable, \$4.99 from Radio Shack (cat. #273-1649). Sound quality will suffer somewhat (a slight increase in background noise due to poor common-mode rejection and the dumb way the power switches are wired), but it works. If the noise is bothersome, you might try increasing C8 in each little speaker to 1000uF and C10 to 10uF. Of course, you can always just buy a second power supply for the

second speaker if you don't mind all the wires. Use the *Celestial Music Demo* program (Listing 9) to set the volume controls in both speakers to your preferred listening level and proper sound balance.

Celestial Music Demo

In the March 1982 issue of *Creative Computing* Leo Christopherson published an interesting little ditty demonstrating the principle of the "Voix Celeste" stop on a pipe organ, for the Atari 8-bit, TRS-80, and Apple-II computers. A shimmering, glistening, iridescent effect is imparted to the treble range by playing each note as a two-note chord in which each of the two notes is slightly detuned from the fundamental by a few Hertz. The resulting beats create the shimmering effect heard when the Celeste stop is employed by the organist.

Listing 9 plays the melody to "Somewhere Over the Rainbow" using this celestial music effect. I doctored Leo's original program to slow the tempo (the original was much too fast) and make it more legato, and I added the repeat feature. Abe Waranowitz added a few lines to make it stereo. Note that this program is not true stereo, because the left channel is merely duplicated in the right. So technically it would be called binaural sound. This

makes the program useful for testing out your Gumby upgrade and adjusting whatever sound equipment you use with your computer. By setting the demo to repeat play many times, you can take all the time you need to perform the necessary adjustments.

Going Further with Stereo Sound

The online networks have been buzzing with 8-bit stereo sound schemes for a long time, including programming stereo sound in *Action!*, patches to *Antic Music Processor* and *Atari Music Composer*, POKEY-MIDI stuff, and stereo mods for the 800. Libraries 4, 5, and 17 in the ATARI8 RT library on GENie will furnish interesting material. Try downloading the following files for more neat 8-bit audio projects: 5207, 5128, 5113, 5112, 5111, 4998, 4795, 4793, 4778, 4777, 4772, 4769, 4755, 2118, 1313, 1270, 1216. And if somebody could modify Bart Bresnik's *AudioVisualizer* program (reviewed in the April issue of *CN*) for Gumby stereo, it would be a real trip. Happy listening!

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Addendum--Correction

If you were a bit confused by the opening paragraphs of my column in the April issue, the only thing I can say is- so was I! In one of those inexplicable mishaps that occurs when Publisher-type people grab hold of your text and start massaging it, the opening paragraphs of my April column disappeared into Joe's Wandering Black Hole. The unfortunate omission gave my April column the flavor of walking into an ongoing conversation. The missing paragraphs are herewith reproduced, with our apologies for any confusion:

So, the Gulf War is over (hot dang, we won!), Mr. Saddam is yesterday's bad news, the Drearies have fled, and the Alchemist has managed to polish off a project or two. There have been a few stirrings in the 8-bit world, and I'm still encountering new sources in the 8-bit Twilight.

Newsbytes

In the January/February issue of the re-launched *Atari Explorer* magazine there appeared a list of computer software and hardware products and services available directly from Atari. There was an extensive listing of ST stuff and videogame items, but no 8-bit products. I didn't give it too much thought until a couple other people also brought it to my attention. I decided to check into it and sent an E-mail inquiry to

Bob Brodie on GENie. According to Bob, Atari's official position is to continue to ship 8-bit software and accessory items (such as light pens and 80-column interfaces) both to individuals and to dealers as long as there is a demand (or presumably, until their warehouses are empty). Recent layoffs at Atari hit Customer Relations pretty hard, so expect delays in responses to letters and calls. Bob also mentioned the production run of 130XEs for the exchange market came and went, and another one is planned. The 65XE is presently out of stock, and development of future 8-bit software (like *MIDI-Maze*) is on hold as Atari's game developers concentrate on new Lynx software.

I had some private indications from Bob that he hasn't entirely forgotten about us 8-biters, but he also emphasized that sales of 8-bit products are VERY slow these days. With the ST line as its "bread and butter" products, and the recent launch of the TT machines, Atari's corporate attention is everywhere but on us 8-bit holdouts. As Atari's most visible corporate representative, Bob has to align his priorities with those of upper management regardless of his personal sympathies. I would note that Bob's response to my inquiry was logged onto GENie at 11:00 pm. At the risk of sounding like a paid mouthpiece, I think I'm starting to like this guy. Under his Korporate Veneer there just might lurk a pretty decent fellow who really earns his pay. Atari would do well to hire a dozen more like him.

CeBIT 1991

Europe's Newest Products & What They Do

By Bill Yerger

Atari Big in the World's Biggest Show

I had heard that CeBIT is the world's largest computer show, and I found that is not an exaggeration. There were twenty-three buildings full of computer displays, mostly one floor but several with two floors. Building One housed Commodore and, out of curiosity, I wanted to see what they had. I spent seven hours walking through this one building. The Commodore booth was twice the size of Atari's, or 3,000 square yards. The only surprises from Commodore were the Amiga 3000 running *Dynacadd* and *Unix*, and the fact that more than half their booth was dedicated to MS-DOS machines. They were showing 486's, laptop 386's, and 286's, all in all about 12 models. The Amiga was shown mostly as a graphic machine with much adolescent interest. For instance, the Video Toaster was displaying a driving simulation on a 48-inch screen that looked very good, and they were giving away a Lotus; but almost all interest in anything Amiga was from folks under 21.

Most of CeBIT was MSDOS. Towards the back of the fairground on the south side, Atari had a 1600 square yard display in building seven. For most Americans Atari's booth would be a real eye opener. Atari chose to have the same booth they had the year before, so for second timers they were easy to find. Situated next to Tandon, which had an equally large booth, the Atari booth had four times as many people in it as Tandon. In fact, while Atari was about seven per cent of the building they were in (which makes them about a five hundredth of the entire show), the Atari booth

was more packed than any booth anywhere else at CeBIT. Usually, one could not walk in Atari's booth but had to elbow and maneuver through throngs of people at each of the forty or so developer displays sponsored by Atari.

About one third of their area was a two story snack bar and conference area with waitresses and beer, cokes and juice on tap. There was also an overhead projector with seating for about fifty. This seemed to be wasted space as I saw no demonstrations going on in that area in the two days I spent in the Atari booth. As I said earlier, the rest of the booth was a madhouse. That certainly indicates that while Atari is probably the number four computer in Germany, the interest and enthusiasm of Atari users is high and is everything we would like it to be here in the states.

TT Versus SST

One of our old friends, Dave Small, was holding down a chair and answering questions about his two new products, MegaTalk and the 68030 SST. MegaTalk retails at \$299 and adds two serial ports to a Mega or John Russell MegaBus enhanced ST. MegaTalk is capable of 921,600 baud or 96 times 9600 baud. When Atari releases the TT Lan, Megatalk will be compatible and uses a Zilog SCC serial chip, as does the TT. MegaTalk also is fully Mac compatible and works with Mac MIDI interfaces as well as the Apple Lasers and Quickdraw printers. It seems from talking to my friends at Fearn & Music in Stuttgart (these guys have *Double Helix* working now, too, for ST/Mac aficionados) that Atari is not used as an Atari for serious busi-

ness use as much as it is used as a Mac. It seems that the Mac has more software which works similarly, and fits together better than Atari software does. For this reason a Spectre with Mac ROMs goes for a thousand bucks in Germany and ST/Mac's are used by businesses and schools as well as business men who have a Mac at work and can't afford one at home. There is no student program for Macs per se in Germany and a Mac LC goes for \$3,500, and a Mac Classic for \$2,000, and Atari's cost about what they do here.

Dave was also showing his SST. The 68030 SST, \$1,100 list with a 33mhz 68030 chip, works in Atari mode and offers substantial advantages over upgrading to a TT. For one thing, the SST is faster; for another, it is more compatible. All your present software should continue to work, just faster. The SST also allows plugging in eight megs of RAM for a total of 12 MB.

Dave and his lovely wife Sandy, who seem to epitomize entrepreneurial couples as a business team, took turns manning his three computers with the SST running a ball bounce over Woody Allen's face demo at about four times the speed of a stock Stacy. They also had Spectre GCR 3.0 running Mac on a 19" monitor and a TT.

After you put a 33mhz 68030 SST into your ST, you'll need video enhancement to pass the TT with your ST. There are several video cards to do just that by Matrix and Wittich Computer, priced from \$500 with 256 colors 1024x768 resolution and not requiring Atari's single bus to be occupied.

IBP was at CeBIT with their 512k upgrade for the Portfolio, and

the Portalog analog-to-digital converter for scientific analysis. Another interesting product of theirs is the industrial Mega, cased like a shoebox with no keyboard or monitor, it can be fitted with ROMs to control robotics and automatic factory functions.

Atari Has Networking

For those of us who were unaware that the ST can truly network, there were several local area networks in evidence. *E-Lan* uses fiber optic technology and a DMA box to network ST's with PC's with up to 254 machines.

Perhaps even more interesting was BioData's *BioNet* which allows Atari's PC's and Mac's to be in a Novell type network with Novell speed, but without a dedicated server. Electronic mail (E-mail) is included and each computer can print out through the main server and hard disk or from its own station. This means a '386 can be set up with *Ventura*, and ST's with *PageStream* and all printing out to one PostScript printer. Several large firms, and even a large newspaper are using *BioNet* currently in Germany, and an international student exchange program based in San Rafael, California is running *BioNet*. This seems to me to be the network of choice for the ST and TT computers.

E-Lan is using a version of Token Ring technology, and this is IBM's Novell compatible system. If you or your company need token ring, *E-Lan* may be the way to go.

Or if you are already working with Novell, then there is *Pam's Net*, which is a DMA ethernet Vax and Unix network which lets you run *X-Windows 114* on an ST hooked into another system.

ST Emulator for Amiga

Maxon publishes an ST magazine in Germany and they have several products which are soon to be seen on the American market. Many of us have already seen *Harklequin*, the desk accessor-

ry of many possibilities. Three new products being shown by Maxon were Pixel-Wonder, the poor man's VGA board (under \$100), which fits in all ST's, *Multi-Gem* a new multi-tasking system which should hit the market by mid-summer, and, uh oh, an ST emulator which puts TOS chips on a card for installation in an Amiga 2500 or 3000. It's about \$400 and requires flicker fixer to run decently. It is fast though, but when you think about it, it may help ST developers with more machines to write for and it will cost Amiga owners about as much as buying an STe!

Scientific Applications

Several excellent scientific applications were being shown. In particular *Dipl-Ing*. Thomas had a PCB layout program for full size PC boards for about \$100, and three levels of chemical graphing programs. Begemann & Niemeyer showed a program named *Riemann* which was a symbolic algebra and programmer's system for \$200. SCILAB, whose software was running along with *Calamus* on *BioNet*, displayed graphing software which would allow graphic artists to enhance and modify graphic representation of mathematical and scientific information. This means that some dry looking xy axis chart can be colored, shaded and prepared for publication in an eye-catching format. SCILAB also has inexpensive statistical programs for multivariate analysis, cluster analysis and sophisticated handling of data. Their niche is first the assimilation of data and then visual manipulation of the pictorial representation of that data. They also produce *Calligrapher* which is a bit-based text editor which interfaces to *Calamus*. It uses pixel graphics, and GDOS, PostScript, or bezier fonts.

Sketching in Color

Three software companies, plus Design Marketing Communication, makers of *Calamus*, were

showing pre-production color art manipulation. 3K showed their *Re-touche* imaging program in Atari's booth and in Epson's booth while using an Epson color scanner to input images. It takes about three minutes to capture a 256-color image in 300 dots per inch. Several other color scanners are available for high resolution digitizing. After manipulating and color separating an image it can be output to Linotronic and film, or to a Hell Graphics 3000 dot per inch printer.

3K also showed their *Sherlock* Optical Character Recognition software. *Syntax* OCR also looked very good and will be priced at about \$150. *Didot Line Art* from 3K offers to be another choice in Atari's desktop publishing pantheon. TMS Cranach Studio provides 24 bit editing for vector graphics with their *TMS Vektor Module*. Most of the TT's showing these products were using video cards, often as expensive as \$2,000. Richard Rommier also showed his new version of *Repro Studio Professional*, outputting to laser or sign cutter. All three of these color image editors were mind boggling. Atari machines look quite capable in their 68030 clothing with professional software and add ons.

Calamus in Color

DMC (ISD in America) had *Calamus SL* running in color on a 19 inch high resolution color screen using *BioNet*'s hard disk over in the Motorola booth. This is the program many of us have been waiting for. *Calamus* now will accept other people's modules and they are licensing developers who wish to build modules.

Some of the new features of *Calamus SL* are fonts which are scalable by degree, SL will do color separation, and the concept of vector font design is different with styles named in a list instead of internal to the font. DMC also has a new vector font editor. In keeping with their new structure of modules, *Calamus SL* has a document

modifier module, a vectorization module, and so on, plus true rasters when a bit mapped picture is imported. If you were bothered by *Calamus'* current one-document-at-a-time capability, you will be glad to know that up to seven documents can be open, with a clipboard limited only by RAM. Color separation can be controlled by seven curves of color gradation in the three basic colors, plus black for definition.

Calamus SL may cost almost twice as much. I expect a list price of about \$500, and of course you'll want more RAM (\$400), speed (\$1.100), and a bigger hard disk (\$700). *Calamus SL* is currently the best pre-production layout program for the ST/TT and their representative said they expected to ship in two weeks, but of course most of us will wait until Nathan Potechin's company releases it in English, hopefully in another month or two.

Word Processors

The one program which seems to have the power to challenge *Calamus SL* is *PageStream 2.0*, also coming soon. The advantage to *PageStream* is PostScript. *PageStream's* adherence to the Postscript and Linotronic system of image production is carried further to support type 1 Adobe fonts. Scanning is done outside of the program by necessity and a separate color editing program would be desirable, but *PageStream* costs less as well. In America, most professional printing is done in PostScript. So, with *Calamus*, one is on a little smaller island in a larger ocean than with PostScript.

PageStream is called *Publishing Partner Professional* and is marketed by Compo. In America their products, originally from Amsterdam, are *That's Write* and *That's FunFace*. *That's Write 2.0* is a "PostScript and other types of font" word processor. It has quite an array of capabilities for someone who wants to get a lot of text

on pages and wants good control of the output. It has most of the things we look for in a word processor: multiple columns, footnoting, dictionaries, fonts, pictures, fast text display. So far, *That's Write* has been priced over the heads of American users. It is, however, the kind of program with which the Atari world needs to compete and show the way via such programs as *WordPerfect*, *WordStar*, and *Microsoft Word*.

Another challenger in this arena is *Tempus Word*. One of the best things about *Tempus Word* is the way it feels. Everything seems to have been written in machine language. If you have ever used *Tempus*, the text editor, you have an idea what quickness of response can be in a program. *Tempus Word* carries that to the logical extreme by adding ease of use and intuitive features, as well as showing all size fonts on the screen.

These two full fledged word processors are better than anything we have in the U.S. and may eventually give *First Word Plus* from England a run for its money, because they provide the features *First Word* leaves out without losing the ones it has. There are dictionaries, fonts, graphics, multiple windows, fast cutting and pasting. The essential question is what kind of support will they get on this side of the ocean. Users want to know they won't get stuck with something they can't understand and maybe doesn't work, and have no one to talk to about it. Besides *Tempus* and *Compo* want \$300 or more for their upper end products. Not unreasonable compared to *MS Word* and *WordPerfect 5.1*, but high in the ST world.

Data Bases

Application Systems Heidelberg had several products to demonstrate, three of which, *Signum*, and *STAD* (Sketch), and *Script*, are available in the U.S. They also had a database called *Phoenix* on display. Victor claims to have the "fast-

est databases on the market, *1st Base* and *1st Address*. Shift showed *Arabesque*, a graphics program, as well as *Cypress*, *Convector*, and *Themedat*. Logilex had a very interesting hypercard-like program called *1st Card*. But perhaps the most interesting database being shown was *Handel Direct*, from Weide Elektronik. This is an all around telemarketing program for dealing with large databases of potential buyers. This is something that has been long lacking on the ST/TT.

Several portfolio developers besides IBP had their wares on display. Notable was Becker and Partner with RAM disks and memory add-ons for the portfolio as well as a drive controller. Drews/BTX has the German national BTX information service running on the Portfolio and also on the ST.

Both Steinberg and C-Lab had computers and synthesizers producing music and were showing off their latest versions. I have to confess that this is the area of my least expertise. These are also the programs which get translated into English first so they are pretty well represented in the U.S.A.

Two New Ones

Atari had quite a few computers on display and probably handed out a ton of leaflets. Tracy Hall is an engineer who went to work at Atari about a year ago, and he was brought over from Sunnyvale to show his dual project, the STBook, and the STPad. Each weighing about four pounds, Atari has taken the floppy out of the Stacy, solved some power problems with a 68C00 chip and produced a two or four megabyte notebook which can hold a 40 or 80 megabyte drive and operate five hours on one battery charge. The screen was a little blurry but may be better by production time. The STBook is a very good and inexpensive (about \$2,000) implementation of what we see in the IBM world as 286 notebooks, but STBook runs ST software.

The STPad is a little more adventurous, but may receive a lot of attention if it accomplishes what it purports to be. The STPad has no keypad although a TT or Mega keyboard will work on it, but instead has a stylus and should include handwriting recognition software from Nestor. Both the STBook and the STPad have parallel, serial, midi, DMA, and mouse ports, although the STBook has a marble for a trackball on its keyboard face. The STPad is aimed at analysis projects where keyboarding is difficult and should have ten hours of battery life. Tracy thought the STBook would be out in America this summer. We'll have to see if the FCC and Atari's production schedule can gear up that fast.

FSM GDOS

Norman Kowalewski, Atari's new head of dealer support in Germany, demonstrated FSM-GDOS. These are fonts which scale on screen and to the printer. There is a 300k font buffer so the fonts you are using don't have to be repeated-

ly taken from disk. Once you have defined a font, it handles very rapidly. Readable fonts can be printed as small as 3 point, something *Calamus* is not too good at. Smooth fonts can be as large as 200 points. You can also save the cache to speed things up when you boot into your GDOS program later.

Although Atari strongly recommends that developers use GDOS, most developers seem skeptical, and have gone their own way for font handling. I know from personal experience that GDOS information is not easily obtained in the United States, and I had no indication that it was especially forthcoming in Germany. I have heard that some contractual obligations with Digital Research limit information Atari can provide. In any case, regardless of how good it is, Atari will have difficulty in establishing GDOS as a standard because it is so late in coming.

The Machine We Believe in

All in all, Atari looked successful at CeBIT. The biggest difference

in Germany is that there has been a consistent marketing program, and although dealers are not particularly happy with Atari's distribution, there is an active third party network and the hundreds of desktop publishing centers, which support Atari printing and sell Atari related products.

What can we learn from Germany? Principally, that Atari computers can be professional instruments and satisfy many artistic as well as business needs. There is a niche for Atari computers.

In Germany, Atari is a small part of the computer world with a large part of the excitement. That can happen here. However, in America, if you don't advertise it, people don't know about it, and won't believe. Atari needs to fight for popularity with price and features which people aspire to own.

With that said, it's time for a 12-hour plane ride back to a part of the world where I operate a small enclave for ST owners, because these machines are so capable we just can't stop believing in them.

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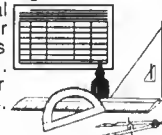
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STARTING BLOCK

by Richard Gunter

Field Stripping A System



When It Doesn't Work Any more. Have you ever acquired a new software package, eagerly broken the wrapper, skimmed the manual just far enough to try installing the thing, and stumbled through the procedure only to discover that something suddenly didn't work any more? Maybe the new program didn't work or maybe the whole system went Spung! before your horrified gaze.

Perhaps a better question would be, "Who hasn't had this problem?"

While both of those lucky folks move on to some other article, the rest of us can discuss what happened and how to get out of this fix. 'Cause that's what this column is about: identifying and diagnosing unexpected interactions between elements of your system.

Not an Island. ST programs do not, in general, live alone. They share memory and other resources of your system, and can compete with each other.

"But the ST doesn't multitask!" you say. Ah, but in a limited way, it does. Here's how. Look at your normal running configuration.

Whether you're running from floppy disks or a hard drive, you probably have one or more programs in your AUTO folder, and you probably load some Desk Accessories (DAs).

Most such programs are what our DOS compatriots would call TSRs, or Terminate and Stay Resident programs. They load, run at least a little bit, and stay in memory waiting for something to happen that triggers further execution.

That ramdisk program in your AUTO folder allocates a hunk of

memory to be used as a simulated disk drive, "formats" it, and plugs itself into TOS so that an attempt to access a file on that "drive" is intercepted before it gets to the operating system's disk handler--the data is moved into the RAM area instead. It usually uses the operating system's services to manage the simulated directories and such.

A Desk Accessory doesn't just sit quietly, either; it's loaded and sort of running but not running all the time, waiting for some event to make it take off and do its thing. Take the screen snapshot DA that I use, for instance. When it loads and installs itself, it sets up to intercept the ALT-HELP key combination. Subsequently, pressing ALT-HELP causes it to copy the current screen image to its internal buffer. Later, when I activate the DA from the Desk Accessory menu, it prompts me through the process of saving the image as a picture file, then goes back to "sleep."

Coexistence. The essential point is that these programs coexist in your computer's memory and interact with the operating system, possibly even modifying TOS functions. They can therefore interact with each other and with other programs you run. Most of the time this interaction is intentional. It's necessary to permit a DA to run at all, for instance.

There are rules, a protocol as it were, intended to ensure that programs will interact only when and as they should. This includes sequences of system service calls for creating, opening, and manipulating windows and dialog boxes in a GEM application, and for cleaning up afterwards. If all the programmers followed the rules and their

programs were adequately tested, all should be well. Sometimes the rules get bent, or a program contains an undetected bug. For that matter, the operating system itself isn't entirely bug-free.

Hence, there are occasional unfortunate interactions. To make matters messier, your Spung! doesn't necessarily mean that your new acquisition is really the culprit; you may have had a time bomb sitting in the system for some time in the form of some other program you thought was reliable. Or maybe two programs just don't get along.

But which ones? Aye, there's the rub...

The Field Strip. I got this term (and the article idea) from the Junkyard Pussycat, who credits Our Editor with coining the phrase. (Thanks guys; I've been using this procedure for years without thinking up a name for it).

In simple terms, the concept is this: strip your system configuration down to the absolute minimum required to run, then add items one at a time until the failure appears. At this juncture, you can play a combinatorial game to verify that the one extra item is the one that causes the problem with your new application. It's kind of like replacing one light at a time on a series-wired string of Christmas lights, looking for the bad bulb.

It helps if you can identify a specific set of actions that will cause the failure reproducibly; i.e., try to find a way to make the failure occur at your will.

SuperBoot: A Useful Tool. Regular readers know that I like and use *SuperBoot*, by Gordon W. Moore. This shareware program is up to Ver 7.0 now, and its main

function is to allow you to control your software configuration.

SuperBoot runs from your AUTO folder, and runs before anything else. It's extremely unlikely that it could cause the sort of failure we're trying to diagnose, because it runs and goes away. All it really does is rename or copy files on your boot drive. By changing an AUTO program's file name extension from .PRG to .PRX or an accessory's extender from .ACC to .ACX, it prevents unwanted programs from loading or running, as though they weren't there at all.

Exactly what we need for our field strip exercise. You can live without it, but **SuperBoot** makes the process a snap, allowing you to concentrate on the problem at hand. Program a **SuperBoot** function key for a "bare" system configuration in which only the absolutely essential programs will be activated, and you're ready to begin the hunt.

A Case History. As luck would have it, I had an incident a couple of weeks ago involving a game I'd purchased. The game is *Hero's Quest*, from Sierra. This game comes on four double-sided floppy disks, and the manual indicated that it could be run from a hard drive. Following the instructions, I installed it in one of my hard drive's partitions.

The game requires low resolution and won't switch automatically. Since I'm a *HotWire* user, I set up a **SuperBoot** function key to use a low resolution desktop and added a program launch item to the *HotWire* menu. Otherwise the configuration was similar to one I'd been using.

I rebooted, created a character, and began playing. After a while, the *HotWire* corner clock suddenly appeared. "Not a good sign," said I, for I'd disabled the corner clock in the *HotWire* menu. Not long after that, some bombs appeared and the system locked up. No mouse, no keyboard, not even the TOS 1.4 cold boot keys would work.

Field Strip Time. I turned off the machine and rebooted. Using **SuperBoot**, I turned off everything except the low-res desktop, TOS14FX, and FOLDR100, and completed the startup. From the desktop, I opened the *Hero's Quest* folder and ran the program. No problem. So far so good.

Here's where a little informed intuition came into play. I knew that I wanted to use *HotWire*; nothing else was really needed, so I was inclined to turn on *HotWire* next anyway. Moreover, the appearance of that corner clock suggested that perhaps *HotWire* was involved.

The next time I rebooted, *HotWire* was added to the configuration. Bingo! After a few minutes of play, the lockup occurred again. Therefore, it was the combination of *HotWire* and *Hero's Quest* that caused the trouble.

I now play *Hero's Quest* with its own **SuperBoot** function key, loading nothing but the TOS patch programs and a low resolution desktop. At first, I started the game from the desktop, but I've now altered the function key so that **SuperBoot** will automatically run the game. Problem solved.

Other Things to Consider. In my case history, the problem was an interaction between two otherwise okay programs. Some programs just don't seem to get along together, even though they work fine separately.

Programs that do major-league things at the operating system level are likely to get caught up in these interactions. This includes all desktop alternatives. One case I know of involved a PC emulator and *Neodesk*. The user struggled with a PC application running under the emulator for weeks before learning that he had to knock the alternative desktop out of his configuration.

It's probably best always to begin by turning off everything you can first; this step will give you an indication that the new application is basically sound. Sometimes it ain't, and, in that case, you can

save yourself a lot of testing time.

Having identified the culprit, you may devise a workaround as I did. In some cases, the best thing to do is simply chuck one of the offenders. I did that with a DA that was supposed to allow me to format disks while doing other things. Unfortunately, I discovered too many of those other things led to problems if the formatter was running. I ditched that formatter.

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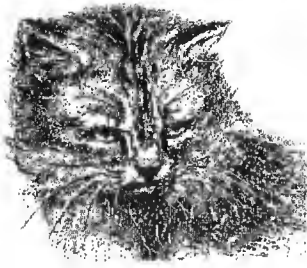
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The Junkyard Pussycat by John Barnes

Was Gibt in Deutschland?

U.S. Atarians have long regarded Germany as a kind of Shangri-La, a remote land of beauty and plenty. Tantalizing rumors waft our way regarding hardware and software products to fulfill our wildest dreams. Unfortunately, the German language shrouds the facts in mists like those that swirl around the stage in a Wagner opera.

Michael Schuetz, the foreign correspondent for Heim Verlag, has recently been sharing copies of *Atari PD Journal* with *Current Notes*. The Pussycat has dusted off his schoolboy German in an effort to peek through this particular keyhole for a glimpse of Atari computing in the land of the Nibelungen.

Heavy Tastes in Software. If the advertisements and product reviews are to be believed, our Teutonic friends have tastes for software along the same lines as those that produce Wurst, Leberkloesse, or Rahmschnitzel on the dining room table. An order form in the February issue offers software from Heim Verlag for digital and analog circuit simulation, molecular modelling, and electric field calculations. At an exchange rate of 1.5 DM per \$U.S. these offerings would cost \$60 or so. Publication of this material seems to be a major activity at Heim Verlag. While the firm's name translates as "Home Press," it appears to be much more of a small scale computer conglomerate.

While American developers battle one another over new desktops, utility programs, and games, our German colleagues are putting out solid applications like *SciGraph*, a vector-oriented presentation graphics package; *Tempus Word*, yet another document layout program; and *MetaMap*, a program to convert GEM metafiles into IMG raster graphics. Prices like DM 599 for *SciGraph* and DM 649 for *Tempus Word* would put such software into the Mercedes class as far as American users are concerned.

One can speculate that the variety and power of the Atari software that we see in Germany reflects an early and vigorous penetration of the academic and technical scene. By 1985 desktop computing in the U.S. already had well-established directions. The market had barely been scratched in Germany. "Power Without the Price" may have had some real meaning there. Personalities may also have played a role, as officials at Atari Germany seem to use a different approach to their developer friends. Under these condi-

tions, opportunistic programmers may have been able to establish a toehold.

Will someone import these items for the American market? The Pussycat doubts it. Like some German wines, much German software travels poorly. Translating extensive documentation is a huge effort, and some German programmers are a bit idiosyncratic, as witnessed by products like *Tempus II* and *Calamus*. American users who need the power of these products can generally find it more cheaply on other platforms. The Atari marketplace in the English speaking world is only a fraction of that in Germany, so that there is little incentive for exports on the part of German developers.

The rather minimal impact that *Signum* has had on the English speaking market appears as further evidence that some powerful German software does not match the tastes of English-speaking users. The efforts that ISD marketing has put into bringing *Calamus* and *DynaCadd* across the pond may well be the exception that proves this rule.

Hardware. *Atari PD Journal's* hardware reviews are very businesslike, with clear enumerations of features. They tend to be rather sparse with regard to detail, however. The fact that Atari's new hardware introductions seem to go more smoothly in Germany and the fact that local hardware hackers have come up with some ingenious add-ons appears to make for more varied hardware selections for German users. A company named Print Technik, for example, offers a flatbed scanner with text recognition software (DM 2298), a meteorological satellite data station (DM 2498), and a high resolution video digitizer (DM 498). The latter two may, however, be incompatible with U.S. video equipment.

The German post office controls the telephone system, and they seem to be slow to accept things like FAX machines (I am not sure about modems).

At this distance it is hard to assess just how broad a market there is for such items, particularly since only a very few hardware merchants choose to advertise in *Atari PD Journal*. It also appears that pricing of Atari products in Germany has not yet been affected by the brutal competition that has been evident here in the USA. Atari's desire to move its product in a market where it can realize solid profits with minimal regulatory hassle simply reflects good common sense.

PD Software. As befits its name, *Atari PD Journal* carries an extensive listing of public domain offerings. There are also special programs for the TT and the STE. The most important among the new offerings are reviewed in a special "Katalog" section. The offerings in the "Science and Technology" category are often especially interesting. Disks can be ordered directly from the magazine for DM 8 each. A "Special Series" priced at DM 15 offers somewhat more powerful programs.

The proportion of offerings specifically identified as "shareware" seems small. Perhaps there are cultural differences with regard to remuneration for software or perhaps the distribution channels are different.

The PD reviews also feature many programs that have made their way across the sea. This ability to cope with programs from two cultures certainly should give the Germans an advantage over their American cousins. Magazine sales of PD material may be more common in Germany because modem usage is probably much lower there than it is here. Few American (or other English-speaking) users are prepared to struggle with German documentation and drop-down menus.

Other advertisers in the magazine offer "PD" software at such low prices that it is hard to believe that it can be worthwhile.

Commercial Software. *Atari PD Journal* seems to review some commercial software before it has been publicly released. The sharply analytical emphasis that *Current Notes* readers are accustomed to is missing here, although one suspects that the software has just as many bugs. In some cases, notably the recent pre-release reviews of *Tempus Word* and *Deluxe Term*, there is a boosterism that must be taken with a grain of salt.

A sampling of recent reviews reveals a mix of applications, utilities, and desktop replacements. Games get pretty short shrift in the form of rather terse reviews. The number of home grown versions of such North American favorites as *Universal Item Selector*, *G+Plus*, and *Flash* seems to attest to a difference in taste or a lack of marketing push. References to *Word Flair* and *NeoDesk*, on the other hand, indicate that some U.S. developers have gotten their feet in the door.

The Watch on the Rhein. *Atari PD Journal* is admittedly a somewhat narrowly focused publication, lacking some of the glitz and hype that one sees in the glossier German magazines. *PD* is the only such magazine that the Pussycat has sampled in enough depth to be able to draw conclusions from it.

From this narrow base, however, it is evident that serious usage of the ST is more common in Germany than it is here. The color cover graphics are right up there with the glitziest, but the inside is printed in a more utilitarian style. A typical issue runs to 90 pages or so and is not overburdened with advertising.

Those who can figure out the means of transferring money to Germany can obtain a subscription to *Atari PD Journal* for DM 70 (normal mail) or DM 100 (air mail). The address is Heim Verlag, PD Abonnement, Heidelberger Landstrasse 194, 6100 Darmstadt 13.

Michael Schuetz can be reached on GENie's Deutschland RT. Rolf Hilchner, the sysop of the RT, is also knowledgeable on Atari matters. Either of these might be able to help U.S. users who might wish to ob-

tain some of the more high powered German software tools.

The Atari Archive. *Current Notes'* Internet correspondent has informed the Pussycat that the correct technique for accessing the archives at the University of Michigan is by anonymous FTP to atari.archive.umich.edu. The address given in reply to a letter to the editor that appeared in the March *Current Notes*, while it is correct for the time being, is not the preferred one.

As mentioned in the March issue, this archive contains a treasure trove for serious students of the ST and its operating system. We are working to get some of it into a form suitable for wider distribution via the *Current Notes* library, but this is a slow process.

Jeff Weiner, one of the folks who helps to maintain the archive, has agreed to accept queries regarding the service. Send Internet mail to:

Weiner-atari.archive.umich.edu.

A brief explanation is in order for those who find the term "anonymous FTP" baffling. FTP stand for "File Transfer Protocol," which is one of the functions that is contained in most software for accessing computers that are linked together by a worldwide network of high-speed communication lines called the "Internet." One normally accesses this network from a computer that is connected to special cabling, the most common type of which is known as Ethernet.

Files can be transferred on this network at rates ranging from 5000 to 100,000 bytes per second, versus 200 on your ST modem. To do this, you need a connection to the Internet via an account on a computer at a university, a government lab, or a commercial organization.

Hardware add-ons supporting Ethernet connectivity for Atari ST's have been available in Europe for some time. They are, however, expensive in comparison with similar cards for MS-DOS and Macintosh machines. This kind of connectivity is essential for even the cheapest Sun, Silicon Graphics, and DEC workstations because they need frequent access to more powerful machines. The Mega STE and TT series machines will supposedly provide better support for Ethernet communications, but the Pussycat has not seen any demonstration of this. The hardware will, of course, be useless without suitable software.

Networking on this scale is a fascinating subject unto itself, and the Pussycat may return to it if and when Atari computers become a part of the scene.

The Junkyard Pussycat welcomes comments and questions from readers. Snail mail to the *Current Notes* editorial offices or electronic mail to any of the following addresses will serve the purpose:

Internet: JOHNBARNES@ENH.NIST.GOV;

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The Non-Conforming Mega STe

(C) 1991 David C. Troy

Hi

About two weeks ago I received my Atari Mega STe, and I must say that my first days with it have been pleasant. It replaced a Mega 4 with a Fast T-16 in it. The Mega STe (mine's a 4MB machine) acts almost identically to my Mega 4. There are a few exceptions, which I am sure you've heard about by now. The Mega STe has the nice NewDesk TOS 2.05 in it, which is the same desktop as is in the TT. This allows you to set window colors, put icons on the desktop, et cetera. See my discussion of the disk based TT TOS from the January/February issue of CN. But anyway, if I were locked in a closet with just the monitors from the Mega STe and my old Mega 4, each one displaying the desktop, I'd have to think twice to tell the difference.

IBM Incompatibility

The Mega STe and the TT, by virtue of the two machines sharing the same case design, have one unusual drawback. The fact that they're inbred looking pieces of equipment is greatly overshadowed by the fact that the things are about 20" wide.

My planned home for the Mega STe, your standard "go-to-the-catalog-showroom-store-and-pick-something" computer desk, will just barely hold the Mega STe. The desk's hutch has a vertical partition dividing its width in half, and guess how wide each half is? Exactly 20 inches. It fit, but just barely. And what about my cartridge port on the left side of the machine, where I like to plug in a

Spectre GCR and a hand scanner sometimes? With those things plugged in the machine sprawls to over 23" wide. So, with a homeless Mega STe staring me in the face and a TT on the way, the quest for a computer desk with an upper shelf of some kind and a hole 24" wide, began on a rainy Friday afternoon in March. Oh, and by the way, guess how wide an IBM PC XT is? It's exactly 19.5" wide.

I went with my Mom. She's good for lending moral support about furniture. You may notice that you don't see too many people shopping for furniture alone, either. Furniture's a major investment, something you're going to have to live with for a long time. Plus, it's heavy stuff. It's nice to have someone to help with moving the car, appease the salespeople, and open the door when you're carrying a 160 pound box that's just slightly taller than you are.

The first place I wanted to look sells only unfinished furniture, typically made out of oak, pine or cherry. It's good stuff. You can stain it whatever color you want, put any kind of finish on it, and it always looks nice. It's not cheesy particleboard or plywood, just solid hunks of wood that actually look nice without a layer of vinyl over it. But that place is kind of a pain to get to, and we weren't sure they'd have what we want. We decided to go to Office Depot first. They have good prices and a large selection of furniture. As it turned out, they had about 15 different computer desks. Almost without exception, every one of them had a

shelf that was exactly 20" wide. Some of the desks were corner units, something I can't use in my store because I have no free corners. The only solution we saw was to buy a desk, just a regular office desk, plus some kind of monitor stand, or make my own monitor stand, and put that on top of it. They had an acceptable desk, made out of particle board with grey vinyl laminate, for about \$139.00.

We went to Price Club, a membership discount warehouse store. They had several desks, all of which had one or both of the previously described symptoms. They had a desk, similar to the one at Office Depot, but with more parts made of steel, and it seemed like it might be reasonable. We had a little trouble finding the price though. I looked around, waxing optimistic to myself, trying to find someone who could tell me the price. Then we found the price by some packaged up units of these desks, and we were sad--it was over \$200. That seemed too much to pay for a regular office desk.

At Hechinger's, a Do-It-Yourself store where in 1984 I bought a nice unfinished oak computer table for under \$150 (which now serves as my kitchen table in my apartment), there was little sign that they had ever had furniture. Its archaeological record had been crushed out by bathroom and kitchen units, bug lamps, and lawn furniture. Everything but computer desks. That made me sad. That was a secret weapon in the back of my mind--I only had one last defense against glue and sawdust.

We made the tedious trek over to the unfinished furniture store, and within three minutes I had found exactly what I wanted. They had about four computer desks, three of which were "IBM Compatible," but one looked as if it would do exactly what I wanted. And it did--for only \$139.95. Made of pine, it has a tabletop about fifty-two inches wide, twenty-six inches deep, and twenty-seven inches from the floor. With a one-foot deep shelf, ten inches from the tabletop running the entire width of the table, it conveniently supports an SM124, an SC1224, and my SLM605 laser printer. Three boards hold the shelf up, dividing the tabletop in two, but each partition is about twenty four inches wide, just wide enough to place the Mega STe conveniently on the tabletop, with a cartridge plugged in. And if the partition needs to be wider, I can move the middle board over some. That's the advantage to furniture made of wood. It's modifiable. And this desk even has a shelf to put your feet on.

We brought the desk back home in a box around 5:00 that afternoon, and I had to have the whole thing assembled, finished, and ready to hold a Mega STe by 10:30 the next morning, when the store opened. (While it was not life-threatening if I didn't have the thing ready, I was planning on working on the machine the next day, and the old table simply wouldn't have worked.) So, I pulled out all the parts, and put the first coat of polyurethane (clear satin finish) at 7:00. I put another one on at 10:00, and then a last one around 12:15. You're supposed to wait three or four hours between each coat, but that was not an option. I prayed that by morning the table would be dry.

At 9:30 the next morning the table was still quite tacky, although between coats of polyurethane I did assemble the thing, so all we were waiting for was the thing to dry. I put down some blank newsprint

under the machinery and hoped it wouldn't mar the still tacky polyurethane. Sure enough, by evening the table had completely dried. That's all proof positive that ready to finish furniture is easy to prepare and doesn't necessarily require a lot of time, and can be a lot better suited for your purposes than stuff designed for the mass market. And if you get a Mega STe or TT, before you decide on where to put it, remember that a cartridge makes them "IBM Incompatible." You didn't want society's IBM compatible computer, so why should you want its IBM compatible furniture?

Mega STe Thoughts

At this point, I am sure that more than 20 reviews, impressions, overviews, and flames have been written about the new Atari Mega STe. I don't think there's too much more to say about how swell the new desktop is or what the keyboard feels like. But, I do have some observations that others may not have run across, and they may prove useful to someone.

My primary *raison d'être* is desktop publishing, and I found an incompatibility between my old accelerated Mega 4 and the new Mega STe. *Ultrascript* version 2.1 will not run on my machine (serial #238) as long as the new Extensible Control Panel is loaded. Whether in the 8MHz, 16MHz, or 16MHz cached CPU modes, *Ultrascript 2.1* crashes consistently. As soon as I remove the control panel, it runs just fine. The only problem there is that if I remove the control panel I'm down to 8 MHz. That's not satisfactory.

I left messages on GENIE about this, and found that there is a problem with the TT such that *Ultrascript 2.1* will not run on that machine because of some self modifying code in *Ultrascript*, but Mike Fulton from Atari did make a patch program for the TT030. So, it works on the TT just fine, but Mike also said it worked on their Mega STe's without a patch of any

kind. It was suggested I turn off the cache, but that had no effect. I don't want to start a rumor that isn't true by saying 2.1 won't run on any Mega STe with the control panel loaded, but rather submit an organized sheet of lab data to my professor by saying it won't work on my machine.

I used version 1.1 instead, and it works just fine, but I get the feeling it's a little slower. That could just be paranoia though. *PageStream* and *Ultrascript 1.1* work very nicely together on the Mega STe, and I've been turning out documents left and right. While the speed of the processor is no faster than what I had before, being able to take full advantage of the built in desktop has been a real time saver. Putting my five most frequently used programs on the desktop has saved a lot of folder shuffling. You can even load those with a function key now. I realize many of you are saying, "Dave, you're dumb, you could have used *NeoDesk*, or *Hotwire*, or any one of a number of other products designed specifically to make your life more enjoyable," but as good as these programs are, the further I get from the base computer the more distressed my psyche becomes. Some programs don't run under these other programs, and when they don't the utilities are the first things that are suspect. And then you have to start removing them. I prefer less power, closer to the heart of the computer, rather than more power piled on like cheese on a potato.

The internal design of the machine is nice. The RAM, ROMs, and hard disk are all accessible with the turn of one screw. SIMM-sockets make upgrading easy, and the Seagate ST157N-1 hard disk pops out for a quick switch to something bigger. Fifty megabytes is not unreasonable, though, and is likely to serve the needs of a large number of users. In the table below, I go down the list of notable features one more time, but be-

cause the Mega STe is, in my opinion, the most hybridized of all the ST's, I also say which Atari computer Atari stole the idea and the electronics from, piece for piece in most cases.

Atari STe Features

Feature	From:
Built in Clock	Mega Stacy
VME Expansion Bus	TT030
Built in Hard Disk	Stacy
Two More Serial Ports	TT030
4096 Color Palette	1040STe
8 Bit PCM Sound	1040STe
Detachable Keyboard	Mega ST
Local Area Network Port	TT030
NewDesk Desktop	TT030
Inbred Looking Case Design	TT030

The Mega STe has a good mix of features from all the machines Atari has designed, and reflects what they've learned about making computers. My only desire is better graphics modes than the original ST--they're getting kind of old and tired, and even the TT's graphics modes are not anything to write home about at this point. Maybe they're hoping the VME port will bring some life to the graphics scene. I hope it does, but realistically better graphics are, at this point, more for the "neat-o factor" than anything practical.

Well

It appears I have used up my space this time, just in babbling about the Mega STe. It is even more promising that I will have a TT by next month than it was last month.

I think I've finally got one coming, after some intense negotiation. I hope to be able to write about it with some interesting angles next time, plus I'll tell you about my adventures in setting up a point-of-sale system under *dbMAN 5.2*. See y'all next time, and if you have any questions, send 'em my way. I'd be especially hot for questions about the new machines--Mega STe, TT030, or SLM605 laser!

Reaching Me:

Phone: (301) 544-6943

FAX: (301) 544-1FAX

MAIL: David Troy

556 Baltimore Annapolis Blvd.,
Severna Park, MD 21146

GENIE: Toad-Serv.

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The Gumby Upgrade

A Stereo Sound POKEY Mod for the Atari 8-Bit

by Chuck Steinman

[Editor's Note: As with any hardware modification, neither the author nor staff of *Current Notes* are responsible for any damages resulting from the installation of this upgrade. Installation of this upgrade will void any remaining warranty you might have on your computer. If you feel uncomfortable with manipulations of the electronics inside your computer, we suggest you consult your Atari dealer or the resident "hardware guru" of your local user group. The upgrade is primarily intended for XL/XE machines but might be adaptable to 400/800 computers (no guarantees!). This is only one of three articles in this issue of CN devoted to stereo sound on the 8-bit machines. Before making *any* modifications to your equipment we *strongly recommend* you read this article thoroughly, as well as Abe Waranowitz's "Stereo Programming on the Atari 8-Bit" and "The 8-Bit Alchemist," elsewhere in this issue. The staff of *Current Notes* thanks Mr. Steinman for permission to reprint this public domain upgrade, and also acknowledges *8:16 Magazine* (BAPAUG Publishing, Dorset, England) where this article first appeared in print. - B.L.P.]

Gumby is a relatively simple hardware upgrade that will render your Atari 8-bit computer capable of producing stereo sound. It will only provide stereo output for software written specifically for this upgrade. It will not produce stereo output for existing software. Also, the keyclick will not be fed into the stereo outputs, as it does not originate from POKEY.

Parts Corral

To install the upgrade you will need the following parts:

- 1) Second Atari POKEY (Pot-Keyboard) audio chip (40-pin LSI).

a) BEST	CO12294	\$5.00
b) B&C ComputerVisions	C2294	\$3.50
- 2) 74LS14 or 74HCT14 Schmitt Trigger Hex Inverter (14-pin DIP).

a) BEST (74LS14)	CO16541	\$0.30
b) Jameco (74HCT14)	74HCT14	\$0.29
- 3) 1000 Ohm Resistor, 1/4 or 1/2 watt carbon film 5% tolerance.

a) Jameco (10/pkg)	R1.0K	\$0.50/pkg
b) Radio Shack (2/pkg)	271-023	\$0.25/pkg
c) Radio Shack (5/pkg)	271-1321	\$0.39/pkg
- 4) Two RCA style phono jacks.

a) Radio Shack(gold,2/pkg)	274-852	\$2.49/pkg
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- | | | |
|---------------------------|---------|------------|
| b) Radio shack(std,4/pkg) | 274-346 | \$1.99/pkg |
|---------------------------|---------|------------|
- 5) Two 0.01-.1uF 16V (or more) coupling capacitors.

a) Radio Shack 272-1065/1069 series	\$0.79/pkg
b) Radio Shack 272-1051/1053 series	\$0.59/ea
 - 6) Two short (9"-12" each) lengths of shielded audio cable.

a) Radio Shack (30ft/pkg)	278-752	\$3.49/pkg
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 - 7) Two standard RCA to RCA phono plug patch cables.

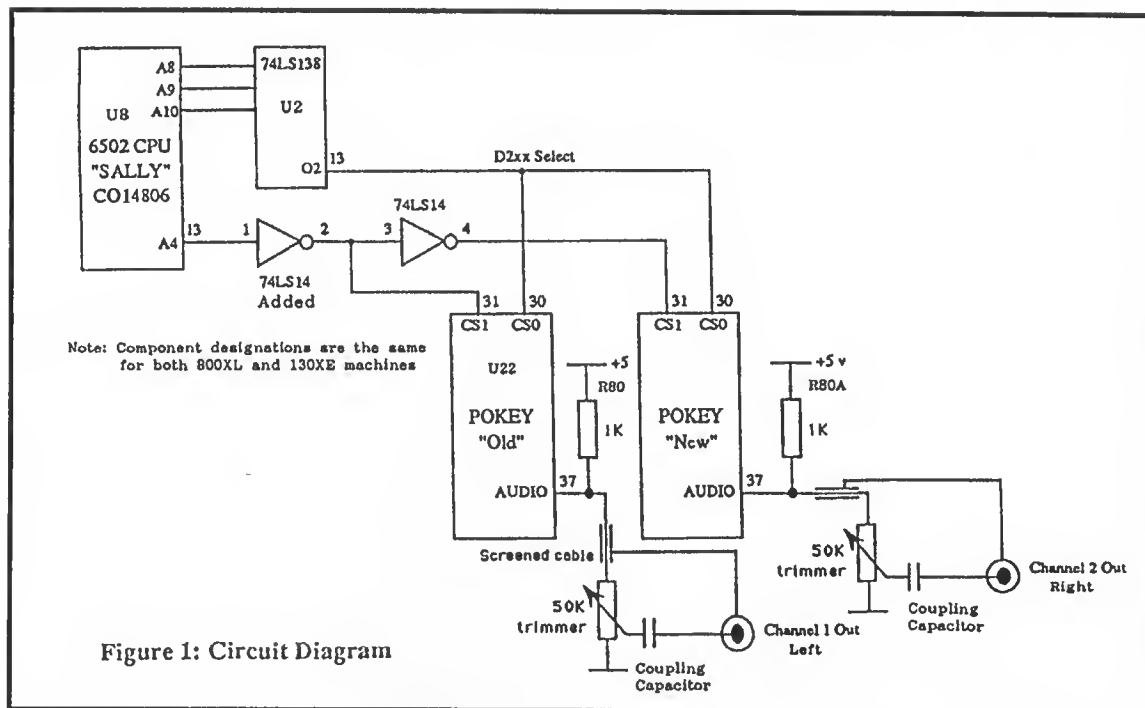
a) Radio Shack (3ft)	42-2366	\$1.89/ea
b) Radio Shack (6ft)	42-2367	\$2.45/ea
 - 8) Optionally, two 50k single turn trimmer pots.

a) Jameco	63P50K	\$0.89 ea
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 - 9) Miscellaneous stuff: solder (preferably small-gauge, RS 64-005), electrical tape or (preferably) heat-shrink tubing (RS 278-1627), small-gauge (AWG #24-26) insulated wire, soldering tools (pencil iron, 35-40 watts).

Installing the Inverter Chip

Disconnect your computer from all power sources and peripherals, disassemble the case, and remove the metal RF shield to expose the circuit board. Touch a grounded object before handling the circuit board to avoid damaging the board with static discharges. Refer to the schematic diagram in Figure 1 to make the specified wire connections as you complete the following steps:

- a) Bend up all pins of the 74LS14 inverter except for pins 7 and 14.
- b) Cut off the narrow part of the pins which were bent up.
- c) In the 800XL, install the inverter over top of the existing 74LS14 (U19) or any other convenient 74LS chip. On the 130XE motherboard, you can use either the 74LS138 (U2) or the 74LS08 (U18), both of which lie in between POKEY (U22) and the 6520 PIA (U23). Make sure the new chip has its locator notch/dot on the same end as the chip below it.
- d) Solder pins 7 and 14 of the inverter to the same pins of the lower IC. When soldering directly to chip pins, use small-gauge solder and make the connections quickly to avoid thermal damage to the chip(s).
- e) Run a small wire (wire wrap type works best) from pin-1 of the inverter to pin-13 of the 6502 CPU (U8, part number CO14806 on XL/XE).
- f) On the old POKEY there is a 3k pullup resistor connected between pin-31 and Vcc (+5V) on XL/



XE computers, designated R74. You will need to unsolder this resistor and remove it.

- g) Run a small wire from pin-2 of the inverter to pin-3 of the inverter, and then on to POKEY (U22, CO12294) pin-31. You can use the foil pad where the resistor was just removed, the one with the trace that leads directly to POKEY pin-31.

Installing the New POKEY

- a) Bend up all pins on the new POKEY which are marked with a minus on the diagram (see Figure 2). This includes POKEY pins: 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, and 29.
- b) Cut off the narrow part of each pin bent up.
- c) Tin each lead which was NOT bent up. This includes pins 1, 2, 3, 4, 5, 6, 7, 17, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39 and 40. These pins are marked in the diagram as *, †, or ‹‹.
- d) Now, bend up the pins indicated by the ‹› and ‹‹ symbols. Do NOT cut these pins short.
- e) Place the new POKEY on top of the old POKEY, piggy-back style.
- f) Solder the unbent pins of the new POKEY to the old POKEY. If your original POKEY was in a socket, it is easier to connect the two if the chip is removed. Make sure no excess solder flows down the pins to the narrow part of the old POKEY. Reinsert both POKEYs into the original socket.
- g) Solder the 1k resistor (R80A, Figure 1) from pin-37 of the new POKEY to Vcc (+5V). The most convenient location to pick up Vcc is the remaining foil pad where the 3k resistor R74 was

removed earlier.

- h) Solder a wire from pin-31 of the new POKEY to pin-4 of the inverter.
- i) Mount the two RCA jacks on the rear of the case, preferably in an area close to the POKEYs.
- j) Solder a coupling capacitor to each of the center conductors of the RCA jacks.
- * k) With the trim-pot knob facing you, pin 1 should be to the left side. Solder a wire from this pin, on each trimmer, to a ground trace on the motherboard.

Figure 2: POKEY Pinout

V			
V _{ss} *	01	40	* D2
D3 *	02	39	* D1
D4 *	03	38	* D0
D5 *	04	37	›› Audio Out
D6 *	05	36	* A0
D7 *	06	35	* A1
02 *	07	34	* A2
Pot-6 -	08	33	* A3
Pot-7 -	09	32	* R/W
Pot-4 ‹‹	10	31	‹‹ CS1
Pot-5 -	11	30	* /CS0
Pot-2 -	12	29	- /IRQ
Pot-3 -	13	28	- Serial Data Out
Pot-0 -	14	27	- A Clock
Pot-1 -	15	26	- B Clock
Key Strobe 2 -	16	25	- Key Strobe 1
V _{cc} *	17	24	- Serial Data In
Keyboard-5 -	18	23	- Keyboard-0
Keyboard-4 -	19	22	- Keyboard-1
Keyboard-3 -	20	21	- Keyboard-2

- * l) Connect the free end of the coupling capacitor to the center pin of the trimmer (one capacitor to each trimmer).
- * m) Connect the shields of the audio cables to the provided solder lugs on each RCA connector, and the center conductor of the free terminal of each trimmer.
- n) Connect the center conductor of the free end of the audio cable which is connected to the left RCA jack/trimmer/cap to pin-37 of the OLD POKEY.
- o) Connect the center conductor of the free end of the audio cable which is connected to the right RCA jack/trimmer/cap to pin-37 of the NEW POKEY.
- p) The shield of the audio cable on the POKEY end should be cut and taped (or heat shrunk) so that it does not touch anything.
- q) Run a 18-20 AWG wire from the ground lug of the RCA jacks to the wide ground area on the motherboard. This normally makes contact with the metal shield that covers the motherboard.
- r) You will now be able to connect the two RCA cables to an AUX (or Tape) level input of a stereo or boom box.
- * s) I would suggest centering the trimmers in their travel, and adjusting them as needed to get the best clarity. You may want to glue the trimmers to the back of the cabinet to keep them from moving around.
- * NOTE: On my system the POKEY outputs worked fine without the trimmers, so I just connected the coupling capacitor on each RCA jack to the appropriate audio cable center conductor. This was driving the AUX 350mV input of a Pioneer SPEC-1 preamplifier.

POKEY Registers

I will only elaborate on the registers used to produce sound in the stereo upgrade (Figure 3). All registers which were in the original POKEY will appear in the second POKEY 16 bytes higher in memory. The extra UART, key scanner, and pot scanner could be used for all kinds of neat projects.

Each Audio Channel Frequency register is an 8-bit value which is a divisor of the primary frequency. Each Audio Channel Control register sets the volume and distortion of each channel. The bits are assigned as follows:

76543210

----vvvv Volume control bits. Range controls volume as follows:

0000 lowest volume level

1111 highest volume level

---s--- Volume only bit. Directly controls audio output:

0 Speaker output is off

1 Speaker output is on

ddd----- Distortion code. Code is assigned as follows:

000	5-bit/17-bit poly noise
001	5-bit poly noise
010	5-bit/4-bit poly noise
011	5-bit poly noise
100	17-bit poly noise
101	pure tone
110	4-bit poly noise
111	pure tone

The AUDCTn register controls all channels. There are several functions assigned to this register, as follows:

Bit-7	Makes 17-bit poly into 9-bit poly counter
Bit-6	Clock Channel-1 with 1.79 MHz (CPU rate)
Bit-5	Clock Channel-3 with 1.79 MHz (CPU rate)
Bit-4	Join channel 1 and 2 to form 16-bit range
Bit-3	Join channel 3 and 4 to form 16-bit range
Bit-2	Insert filter in channel-1, clocked by channel-2
Bit-1	Insert filter in channel-2, clocked by channel-4
Bit-0	Switch clock base from 64kHz to 15kHz

The SKCTLn register controls various functions of the POKEY device, and only has to be initialized to a value of three to assure all four channels of POKEY are active. To detect if the upgrade is installed, look at the 8 extra pots: they will be all zero. Also, the key-code register will be also zero. If you compare the keycode at \$D209 with that of \$D219, and \$D219 is zero, the upgrade is installed. You may want to mask IRQ's during the test for safety.

Let me know what wild things you all come up with for this upgrade. My GENie address is: DataQue.1. Good luck!

Loc.	Names	R/W	Function
\$D200	AUDF1	W	Audio Channel #1 Frequency (Divide F/n)
\$D201	AUDC1	W	Audio Channel #1 Control (Vol/Distort)
\$D202	AUDF2	W	Audio Channel #2 Frequency (Divide F/n)
\$D203	AUDC2	W	Audio Channel #2 Control (Vol/Distort)
\$D204	AUDF3	W	Audio Channel #3 Frequency (Divide F/n)
\$D205	AUDC3	W	Audio Channel #3 Control (Vol/Distort/)
\$D206	AUDF4	W	Audio Channel #4 Frequency (Divide F/n)
\$D207	AUDC4	W	Audio Channel #4 Control (Vol/Distort)
\$D208	AUDCT1	W	Audio control for channels 1-44
\$D20F	SKCTL1	W	Serial Port Control
\$D210	AUDF5	W	Audio Channel #5 Frequency (Divide/Fn)
\$D211	AUDC5	W	Audio Channel #5 Control (Vol/Distort)
\$D212	AUDF6	W	Audio Channel #6 Frequency (Divide//Fn)
\$D213	AUDC6	W	Audio Channel #6 Control (Vol/Distort)
\$D214	AUDF7	W	Audio Channel #7 Frequency (Divide/Fn)
\$D215	AUDC7	W	Audio Channel #7 Control (Vol/Distort)
\$D216	AUDF8	W	Audio Channel #8 Frequency (Divide/Fn)
\$D217	AUDC8	W	AudioChannel #8 Control (Vol/Distort)
\$D218	AUDCT2	W	Audio control for channels 5-8
\$D21F	SKCTL2	W	Serial Port Control

Figure 3: POKEY Registers

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Stereo Programming



on the Atari 8-Bit

by Abe Waranowitz

Imagine playing your favorite video game with the sound effects moving left and right with each object on your screen. On the right, you hear a warning of an approaching enemy. Quickly you turn your joystick to see *and hear* that enemy right in front of you.

Imagine your favorite music program with twice the musical capabilities. It can now play eight different voices rather than four. Notes of your favorite tune literally float across the room.

Imagine a video game with *no* graphics at all. Stereo sounds generated by your computer guide you through a black maze, challenging your audio memory and hand-ear coordination.

Gumby Stereo

The Gumby stereo upgrade by Chuck Steinman (elsewhere in this issue) offers a new world to Atari 8-bit sound. Unfortunately, there are very few stereo programs available. In this article, I will show you how to program stereo sound with the Gumby upgrade, and even how to modify existing programs. Effective use of stereo and special effects can increase music quality, grab a game player's attention span, and improve the simplest of demos.

After you have upgraded to stereo, you will have two sound channels. We'll make the new channel "right" for simplicity. The old, regular channel, will be the "left" side. It is important to note that the left channel has not changed. All non-stereo programs will run normally, but the sound will only be heard in the left side.

POKEY has four independent sound voices, voices 0-3. When you add the new POKEY chip, you are adding four more of these voices. The new voices in the second chip will now be named voices 4-7.

POKEing POKEY

Since there are no BASIC commands for right channel sound, programming will require BASIC's POKE command. The left POKEY chip occupies memory locations 53760 (\$D200) to 53775 (\$D20F). The right (new) POKEY is located just above the left in locations 53776 (\$D210) to 53791 (\$D21F). Therefore, the sound statement

SOUND 0,100,10,15

will look like this in POKE statements:

POKE 53760,100:POKE 53761,(10*16)+15.

This is what the standard SOUND command looks like in POKE commands:

POKE AUDF#,FREQ:POKE AUDC#,(DISTORTION*16)+VOLUME

(AUDF# and AUDC# are memory locations of the POKEY sound registers).

To play sound in the right channel, try the following poke statement.

POKE 53776,100:POKE 53777,(10*16)+15

POKE both locations with zero to clear the right channel. RESET will turn off all sound statements, but END and other statements will not.

Now that we know how to put sounds in the right and left channels, how do we program stereo sound for games and such? The illusion of movement is created by manipulating the volume of the right and left sides relative to the position of the object making the sound. If an object is on the right side of the screen, the right channel will be louder than the left. To demonstrate this, type in Listing 1. The sound of an invisible object will seem to move across the screen. By examining the program you can see that as the object moves from left to right, the volume of the left side decreases as the right increases. [Editor's Note: Listings 1 through 8, as well as Listing 9 from "The 8-Bit Alchemist" elsewhere in this issue, have been uploaded to Software Library 4 under the Atari 8-bit RoundTable on GENie: file #5355, STERDEMO.CN. In addition, a disk containing the text files and stereo demo routines is available from the NOVATARI 8-bit PD library.]

Listing 2 takes this idea one step further by starting the volumes at zero and ending them at zero. This method is better for objects that leave and enter the screen. Having the sound appear before and after the object appears is a more realistic way to approach stereo programming.

More Stereo Demos

In real life, the frequency changes as an object moves relative to you. The fire engine is a perfect example. When it approaches, the siren is pitched higher than when it leaves. This is known as the Doppler effect. Type in Listing 3 to see how easy it is to simulate this effect.

Another way to add realism is the echo. An echo creates a sense of acoustic depth: confined space or openness. Adding an echo unit to a stereo system is a

popular way of making a room sound larger than it really is. Echoes can be simulated by creating the same sound in the opposite channel shortly after and at a lower volume than the first sound. Type in Listing 4 to hear echoes at different time delays.

Combining these two special effects can achieve some spectacular results. I am always impressed by the sounds created by a helicopter passing over. The echoes and the doppler effect create a wild treat for my ears. Type in Listing 5 to hear how three-dimensional you can get your Atari to sound.

There are many other avenues to explore with stereo sound. I suggest experimenting with phasing and harmonic manipulation to create some wild 3-D sound effects. The April 1982 issue of *Byte* magazine shows how to create a true sine wave with the volume-only bit. Using these methods creatively, almost any sound can be "moved" and manipulated for realism that compares with the best computer sound systems available. Even the simplest of games with great sound will grab the player's interest and add to the fun of playing.

Modifying Machine Language Programs

BASIC programs are by far the easiest to modify, since the programmer has direct access to the variables that control volume and frequency. From there, adding the stereo is as easy as programming the above demos. However, not all programs are written in BASIC.

Stereo sound programming in machine language can be either extremely easy or very difficult. There are really only two ways to program sound in machine language. The simple way uses direct addressing, and the difficult way uses indexing with the X and Y registers.

The goal of modifying an existing program is to split up the current four sound voices. By leaving two voices in the left and moving the other two to the right, stereo sound can be simulated. In the following examples, voices two and three will be moved to the right channel.

First, examine your program in a debugger. If the program directly accesses each of the sound registers, the modification is easy. For example, if the program contains something like:

```
STA $D204,  
change it to:  
STA $D214.
```

This will physically move voice 3 to the right side. Make sure you move STA \$D205 over, too.

One problem you will encounter is initializing the new POKEY chip. For standard sound, a three is put in location \$D20F and zero into \$D208. You can either initialize the program before running it, or append a few short bytes onto the file. Listing 6 is a BASIC program that creates a small patch for you to ap-

pend. It will simply load into the needed locations when you load your programs. Unfortunately, this method will not work with programs that call for a warmstart before they run. Warmstarts reset all locations in the POKEY page to zero (\$D200-\$D2FF). To solve this problem we'll need to use something called the indexed sound method.

Music Construction Set Mods

Sound programming through indexing uses either the X or Y registers as pointers to the intended voice. This makes modification very difficult because the voice is unknown to us. This problem can be overcome by appending a small file to the end of the main program. For this example, I'll describe how to adapt Music Construction Set (M.C.S.) to Gumby stereo. Listing 7 is an assembly listing of the appended file for M.C.S.

Here's how it works. First, we pick an area of memory that is unaffected by the program we wish to run. M.C.S. doesn't use locations \$400-\$47F, so I put the added program there. (In many cases, free memory will be difficult to find; you may have to experiment to see what works best.) There are ten possibilities you will run into with this method, so all ten are accounted for. As I said above, the X or Y register will contain the pointer to the needed voice. The four indexing possibilities are:

```
STA $D200,X STA $D200,Y  
STA $D201,X STA $D201,Y
```

In addition to these are the audio control registers: both POKEY chips must be set to the same parameters. Here are the six possible audio control commands:

```
STA $D208, STA $D20F  
STX $D208, STX $D20F  
STY $D208, STY $D20F
```

Make a backup of your original program in case you mess up. Now, go through the original program and change each of these commands to vector jumps. The vectors are different for each command and point to the added program. Listing 8 contains all the vector jumps for the above ten commands. (These vectors are only for the case of M.C.S.)

When the main program is run, the computer will jump to the added program instead of setting the sound registers. Next, the computer will determine the appropriate register, set it, and return to where it left off. The 8-byte tables in Listing 7 determine which voice gets moved. The X and Y registers will always be even, so only half the table is really used. A 00 or 01 puts that voice in the left. A 10 or 11 puts that voice in the right. This table is set up for voices 2 and 3 as right channel (0 and 1 remain left). The added program takes a byte from the table and places it in its own addressing scheme. What byte it takes depends on which voice is in the X (or Y) register.

For example, let's say the X register contains 2 for voice 2. We want voice 2 on the right, so TABLE1+2 has \$10 in it, and TABLE2+2 has \$11 in it. In the main program, change STA \$D200,X to JSR \$400 and STA \$D201,X to JSR \$418. Assemble and append the added program, then run! You will probably have to do this for other registers, too. Use a disassembler to determine what is needed. Also keep in mind that this is synthetic stereo; sounds will not move with the graphics unless you specifically program them to do so.

You might often find that a program combines two voices to create a chord or other specific sound effect. Try to keep these voices on the same side. Also, in M.C.S. there aren't any guidelines as to what note should appear on what side, so you'll have to experiment as to what voices to move for the best effect.

Good luck with your stereo programs!

Program Listings

1: Simple Stereo Fade

```
10 REM LISTING 1
20 REM SIMPLE STEREO FADE
30 POKE 53784,0:POKE 53791,3
40 FOR X=0 TO 15
50 SOUND 0,200,10,X
60 POKE 53776,200:POKE 53777,(10*16)+(15-X)
70 NEXT X
80 SOUND 0,0,0:POKE 53777,0
```

2: Complete Stereo Fade

```
10 REM LISTING 2
20 REM COMPLETE STEREO FADE
30 FOR X=0 TO 15
40 SOUND 0,200,10,X
50 NEXT X
60 FOR X=0 TO 15
70 SOUND 0,200,10,15-X
80 POKE 53776,200:POKE 53777,160+X
90 NEXT X
100 FOR X=0 TO 15
110 POKE 53777,160+(15-X)
120 NEXT X
```

3: Doppler Effect

```
10 REM LISTING 3
20 REM DOPPLER EFFECT
30 POKE 53784,0:POKE 53791,3
40 FOR X=0 TO 15
50 SOUND 0,175+X,10,X
60 NEXT X
70 FOR X=0 TO 15
80 SOUND 0,190+X,10,15-X
```

```
90 POKE 53776,190+X:POKE 53777,160+X
100 NEXT X
110 FOR X=0 TO 15
120 POKE 53776,205+X:POKE 53777,160+(15-X)
130 NEXT X
```

4: Echo

```
10 REM LISTING 4
20 REM ECHO
30 POKE 53784,0:POKE 53791,3:POKE 53776,125:F=1:DELAY=70
40 FOR V=15 TO 1 STEP -2
50 IF F=1 THEN GOSUB 100
60 IF F=0 THEN GOSUB 150
70 SOUND 0,0,0:POKE 53777,0
80 FOR D=1 TO DELAY:NEXT D
90 NEXT V
95 END
100 SOUND 0,100,14,V
110 FOR X=1 TO 10:NEXT X
120 SOUND 0,90,14,V
130 FOR X=1 TO 10:NEXT X
140 F=0:RETURN
150 POKE 53776,100:POKE 53777,224+V
160 FOR X=1 TO 10:NEXT X
170 POKE 53776,90:POKE 53777,224+V
180 FOR X=1 TO 10:NEXT X
190 F=1:RETURN
```

5: Helicopter

```
10 REM LISTING 5 (HELICOPTER)
15 FREQ=200:FREQ2=55:DELAY=2
20 REM ECHO/DOPPLER DEMO
30 POKE 53784,0:POKE 53791,3
40 POKE 53776,FREQ:POKE 53778,FREQ2
50 POKE 53760,FREQ:POKE 53762,FREQ2
60 FOR W=0 TO 75
70 V=W/5:V2=15-V
80 POKE 53761,160+V2:POKE 53763,128+V2
90 POKE 53777,160+V:POKE 53779,128+V
100 POKE 53761,0:POKE 53763,0
110 POKE 53777,0:POKE 53779,0
115 FOR D=1 TO DELAY:NEXT D
120 POKE 53777,160+(V2/8):POKE 53779,128+(V2/8)
130 POKE 53761,160+(V/8):POKE 53763,128+(V/8)
131 POKE 53761,0:POKE 53763,0
132 POKE 53777,0:POKE 53779,0
135 FOR D=1 TO DELAY:NEXT D
140 NEXT W
```

6: Pokey Initialization

```
05 REM LISTING 6
10 OPEN #1,8,0,"D:ADD.COM"
```

```

20 FOR X = 1 TO 10
30 READ A: PUT #1,A
40 NEXT X
50 CLOSE #1
60 END
70 DATA 255,255,24,210,24,210,0
80 DATA 255,255,31,210,31,210,3

```

7: File for MCS

```

0100      *=      $0400
0110      .OPT    OBJ
0120 EXFREQPHA
0130      LDA     TABLE1,X
0140      STA     XFR+1
0150      PLA
0160 XFR      STA     $D200,X
0170      RTS
0180 WYEFREQ     PHA
0190      LDA     TABLE1,Y
0200      STA     YFR+1
0210      PLA
0220 YFR      STA     $D200,Y
0230      RTS
0240 EXCON     PHA
0250      LDA     TABLE2,X
0260      STA     XC+1
0270      PLA
0280 XC       STA     $D201,X
0290      RTS
0300 WYECON     PHA
0310      LDA     TABLE2,Y
0320      STA     YC+1
0330      PLA
0340 YC       STA     $D201,Y
0350      RTS
0360 A8       STA     $D208
0370      STA     $D218
0380      RTS
0390 AF       STA     $D20F
0400      STA     $D21F
0410      RTS
0420 X8       STX     $D208
0430      STX     $D218
0440      RTS
0450 XF       STX     $D20F
0460      STX     $D21F
0470      RTS
0480 Y8       STY     $D208
0490      STY     $D218
0500      RTS
0510 YF       STY     $D20F
0520      STY     $D21F
0530      RTS

```

```

0550 TABLE1 .BYTE 0,0,0,0
0560          .BYTE $10,0,$10,0
0570 TABLE2 .BYTE 1,0,1,0
0580          .BYTE $11,0,$11,0

```

8: Vector Jumps

```

STA $D200,X JSR $0400 EXFREQ
STA $D200,Y JSR $040C WYEFREQ
STA $D201,X JSR $0418 EXCON
STA $D201,T JSR $0424 WYECON
STA $D208 JSR $0430 A8
STA $D20F JSR $0437 AF
STX $D208 JSR $043E X8
STX $D20F JSR $0445 XF
STY $D208 JSR $044C Y8
STY $D20F JSR $0453 YF

```

9: Celestial Music Demo

```

10 REM LISTING 9 CELESTIAL MUSIC DEMO (BINAURAL)
12 REM LEO CHRISTOFERSON, CREATIVE COMPUTING MARCH
1982.
15 REM MODIFIED BY B. POEHLAND, A. WARANOWITZ CN MAY
1991.
20 ? "'Somewhere Over the Rainbow'":?
30 ? "How many plays?":?
40 INPUT N
50 POKE 53791,3:POKE 53784,0
60 IF N<1 THEN GOTO 310
70 FOR I=1 TO N
80 GOTO 90
90 ? "Celestial Music Demo, Play #";I
100 DATA 16,121,16,60,8,64,4,81,4,72
110 DATA 8,64,6,60,2,100,16,121,16,72
120 DATA 24,81,8,100,16,144,16,91,8,96
130 DATA 4,121,4,108,8,96,6,91,2,100
140 DATA 8,108,4,128,4,121,8,108,8,96
150 DATA 32,121,255
160 RESTORE
170 DISTORTION=10:READ DURATION
180 IF DURATION=255 THEN 280
190 READ PITCH
200 IF PITCH=100 THEN DISTORTION=1
210 SOUND 0,PITCH,DISTORTION,10
220 POKE 53776,PITCH:POKE 53777,(DISTORTION*16)+10
230 SOUND 1,PITCH-1,DISTORTION,5
240 POKE 53778,PITCH-1:POKE 53779,(DISTORTION*16)+10
250 FOR DELAY=0 TO DURATION*15
260 NEXT DELAY
270 GOTO 170
280 SOUND 0,0,0,0:SOUND 1,0,0,0
290 FOR XX=53776 TO 53779:POKE XX,0:NEXT XX
300 NEXT I
310 STOP

```

Becoming a Mac

Why Can't an ST Be More Like a Mac? It Can!

By Paul Stampfli

Jump Starting

The practical way to start your journey into Mac-Land is with your favorite Mac computer magazine in your lap, i.e., reading. You must first decide why you want, or need, to embark on this journey from your ST to that "other machine."

For whatever reason, be it education, access to the plethora of programs, or a look at a different user interface, whatever. If you do it, I submit, you will find your journey into MacLand rewarding. If nothing else, at the very worst, you will squander a few hard earned dollars that will save you thousands in the long run, because you will not need, or want, one of these expensive Apples. Also, it will give you a new appreciation for another Operating System (OS), and offer you the latitude to use it when and as you please. On the other end of the spectrum, you may go MacMad, and "require" a Mac immediately. That could be your destiny, but I doubt it.

Hardware

Start small and simple. Here are the requirements:

- **A monochrome monitor.** (It can be done in color, but mono is *much* better.) A monochrome (used) goes for only about \$75, if you don't already have one.

- **Spectre GCR** (This is the best. The new GCR cartridges ship with Spectre software 3.0, a real improvement). Or you could get a Spectre 128, but this is not nearly as good as the GCR because you can't use Mac disks directly. But Spectre 128 units are available *cheap*

used, and can give you a good look at the Mac operating system, before you invest further monies.

- **Mac ROM's.** These are essential, and can be had fairly cheaply. ROM's and a GCR new should cost about \$350 or so. There are a lot of Mac ROM's out there that have been pirated. (One guy that was caught silk-screened the Mac part numbers onto the chips and covered the Texas Instrument original logo. They say he pirated between 5 and 15,000 chips.) You just have to have faith in your dealer. A guy named "Joe," working out of the trunk of his Studebaker, is probably not too reliable. I got a set from D&P Computers, a company in which I have great faith.

And About Your Wallet?

So, the start small and simple plan with the GCR works out to about \$425 - \$450 tops. The cheap and dirty method, with Spectre 128, mono monitor, and ROMs? Gee! I don't know, but very cheap! I swapped my old 128 for a tune-up! Now that you have ordered, or bartered with someone else, and gone through all the work to complete the "dirty" deed, you now have the parts, but what to do with them? I can't improve on the outstanding manuals written by Dave Small. He's a genius, and seems to be a likeable person, a very hard combination to beat, and even harder to find. So the basic installation goes, "Put the chips in the cartridge (the right way); plug the cartridge into the cartridge port (hook up external floppy with the GCR) and boot up."

Now here's a little road-block, what about some Mac software. Even better, what about the Mac system? I got my system (6.0.3 with Finder 6.1) for the price of a floppy from a Mac authorized dealer. The system and finder are what make a Mac, a Mac, and must be loaded from a disk. (This part of the Atari system, TOS, is in ROM.) Be sure to use the Installer Program to put your system in "bootable" mode, and to put it on the hard drive if you have one. (Make a "bootable" floppy at the place you get your System and Finder!) The instructions that Dave gives in the manual are perfect for hard disk installation, for the totally inept (such as me) so I won't try to recreate them here. (See how important the manual is?)

Part of the Joy of It

Programs are very easy to come by for the Mac, and are the reason I like the OS so very much. (But not enough to drop \$10,000 on a new Mac!) *Current Notes*, Mac clubs, and bulletin board systems have tons of public domain, shareware, pictures and graphics drawings for the Mac. Many ST Clubs now support some Mac PD offerings, or have a "sub-library" for the purpose. Commercial programming abounds, and most is quite good. For the cost of a few disks and phone calls, you'll quickly learn what you need to about the Mac OS. But here are a few pointers to see you on your journey. (By the way, I am NOT a programmer or an expert. These tips are greatly simplified and "glossed over."

Don't take them as the "Sermon on the Mount.")

Inits and cdevs are much like autoboots or TSR's (Terminate and Stay Resident) for the ST and IBM. They run at startup, usually from the system folder where your system and finder are located. They do little utilities that are so helpful, like setting up your sound files and things like that.

The Mac control panel is a thing of beauty. You will want to keep it up. The Inits and cdevs will help. For example, you can change your system beep from a simple beep, to a monkey, to a Valley Girl saying, "Like Beep, Ok!" (Although this is guaranteed to make you crazy!)

Desk Accessories are DA's, but Mac DA's must be moved with the *Font/DA* mover program to be useful. You can have a bunch of DA's, not just the six that GEM allows, but they do take up room (RAM). I don't know what the limit is on DA's, but I've had ten up at once, and if you invest in something like *Suitcase II* (commercial ware) the number is limited only by your memory, and you have the latitude of booting up specific "sets" of DA's for particular jobs. Speaking of fonts, they belong to the system, not to the Application.

All of the mess you're used to with the ST and IBM of trying to get just the right font in one application, and then a font that matches it in another application, (i.e. a wordprocessor and a spreadsheet when you merge data and the typefaces don't match up) is over. If you select your 15 favorite fonts (just a random number, like DA's I don't think there is a limit of fonts in your Mac, other than memory limits,) and use *MS Word*, *WordPerfect*, and *Quark Xpress*, all those fonts are available in all those programs and without rebooting, reconfiguring, or anything else. How easy can it be???

Mac file names are also much more open than either the IBM's or the ST's. You know, 8.3 right? Eight

characters to the left of the dot, three to the right, no spaces and no "reserved" characters. I currently have a file in my Mac stuff titled (and I'm not kidding) *Improved Student Fin.Worklaser*. Just try that on your ST or IBM. That tells me that this file is the Improved student handout, final form, formatted for the Mac laserwriter at work. I really appreciate this kind of thing from the Mac.

The Mac control panel is a thing of beauty...

Running applications is easy from the Mac. Either double click the program icon (large or small) and it's running, or double click a file to execute the program that the file was saved by, and then load that file into the application. Double clicking the name of the program itself will let you rename it, then and there. Drag the icon out to the desktop and it will stay there, with a "ghost" file left where it originally was. The desktop will remember where it is and replace it there at next bootup if you shut down. (Sounds like *Neodesk*, huh?)

The trash can is recoverable. That is, if you throw something away, not only will you be asked if you "really" want to throw away a program, but until you go to the SPECIAL menu and EMPTY TRASH, it's not really thrown away. You can double click on the trash can and pull it back out! I consider this a very nice touch.

Bear in mind that when you throw something away, the disk space is NOT available until you empty the trash.

I'm not sure anyone at Apple has ever heard of ASCII. The most annoying thing about the Mac, to me, is its inability to exchange files from one application to the other. This is improving and is being lead by high-end word processors like *WordPerfect*, (which you can even save in IBM formats, which can now be imported directly into the ST version!) but I still view it as a major shortcoming.

Frankly, I'm surprised that this problem exists, but it does. By the way, I wrote this on the Mac (*WordPerfect*) at work, (my lunch break), saved it as an MS-DOS 4.2 file, brought it home, imported it into *WordPerfect ST*, and then did the editing.

That's probably a lot more than you wanted to know right now. The Mac environment is fun and useful, and I personally enjoy it. But not to "the \$\$\$ tune" that Apple wants to be paid to dance. Thank you, very much, but my little game machine works just fine for me, and the fact that it can run the "Big Boys" software at a fraction of the cost, makes my heart light and my wallet heavy. Serious satisfaction these days.

If you would like to know more about Mac emulation on the ST, or would like to see other articles written in this style in this magazine, contact the editor. I can only write if the Editors publish, and that means you, the customer, has to be satisfied.

About the author: Paul Stampfli is in the Army and stationed in El Paso, Texas. Presently he lives in a mobile home in the desert with his wife, fifteen dogs, four cats, two birds, and four horses. He is looking forward to leaving the Army next year in pursuit of civilian education and 60's haircuts.

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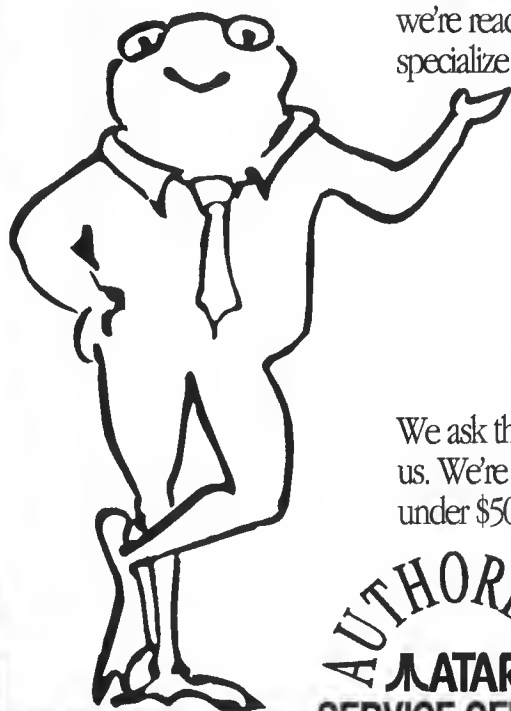
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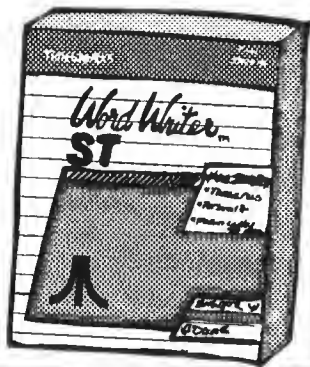
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Always the ladies' man, Toad has become an even bigger hit with the greenbabes around town with his heretofore untapped poetic skill. He's got Word Writer ST - a simple but powerful word processing program. It's inexpensive, which we all know is a plus when you've got to have cash to spend on the women. His latest work, "Your Egg Mass Is a Shiny Beacon," has worked wonders on his latest catch. So it's no coincidence that Toad is smiling this month; it's because Toad chose **Word Writer**, and that has made all the difference. Only \$49!



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Demystifying MIDI

How Can Music Be So Complicated?

By Mike Heininger (c) 1991

You See, Doctor, It's This Way ...

Computers promise to make life easier for virtually every profession, but nowhere is that promise more conditional and complicated than in making music via MIDI--the Musical Instrument Digital Interface.

One of the main reasons some people choose the Atari ST/MEGA is its unique built-in MIDI interface. For example, as a one-time college music major, I couldn't wait to let the computer expedite music writing as it has dramatically facilitated word processing and spreadsheets.

Was I in for a surprise! Sure, MIDI is dazzling wizardry. But it's hard to think of any discipline where the initial dazzlement and enjoyment plummet so quickly into technobabble. You know it's different when MIDI seminar leaders at the last two Atarifests make impressive music but have trouble conveying their techniques to others because they don't actually read music.

Don't Have to Read Music

Granted, many successful musicians do not read music; they just pick up their instruments and play. That can be nice in a jam session with other skilled ad-libbers, but sheet music illiteracy does not represent the most complete musician.

MIDI makes things much easier for musicians who don't read music. Some MIDI programs allow musicians to simply play their instruments as they normally do, with the MIDI software not only digitally recording their efforts but translating them into sheet music printout. Is that not truly miraculous?

Then why is MIDI so easy to appreciate but difficult to master? One explanation could be that computer music is attuned more to sound engineers than to musicians, or at least conventionally trained musicians. Although most musicians realize music is innately numerical--e.g., notes are measured by sound frequency, i.e. beats per second, A=440--nowhere is this more obvious than in computer music notation.

Aside from the sheer pleasure motive everyone has for playing and listening to music, the main motivation for using MIDI seems to be playing or writing music in a digital form where it can be easily modified as you wish, e.g., tempo, instrumentation, melody, or virtually any other part.

Writing music digitally falls into two main categories:

simple songs like ballads with only a melody line and chord line plus lyrics, or complex compositions such as orchestra or band pieces for many different instruments.

Actually, the simplest form of Atari music software doesn't even need the MIDI port or a separate keyboard. Programs like *Music Studio* and its successor, *Music Studio 88*, are wonderful Golden Handbook-like introductions to the potential of computer music.

Begin with *Music Studio*

With *Music Studio*, you can play songs already written to disk or write your own using the mouse. For example, if you wanted to write a simple melody, you would use the menu to click on a tempo, choose from one of 15 instrument sounds, select a note type (e.g., a quarter note), then click when the mouse pointer is on the musical staff where you want your note to appear.

Since *Music Studio* is one of the few music programs running in low resolution, you can treat yourself to notes of many colors dancing across your screen like some old Walt Disney movie. You can even write several verses of lyrics for your masterpiece. You can also modify 15 instrument sounds or create your own unique sounds with an easy graphic display featuring controls to adjust attack, decay, sustain, and release (ADSR). But since you have to select each note or rest (or other musical "event" as the programmers say) by mouse (or by pressing a key on a MIDI-attached keyboard that does not translate into a real-time note), sooner or later writing music this way--while still a huge improvement over doing it with a pen or pencil--becomes rather tedious.

Then, Get a MIDI Keyboard

The real thrill of computer music writing is playing your music on a MIDI-compatible instrument hooked to your Atari via cables to the MIDI ports. It is nothing short of incredible to play a melody on your MIDI instrument (such as a keyboard or the neat little Casio Digital Horn) and have the Atari play your music back after saving it in memory or disk.

So what? you say. That can be done on a regular tape recorder. Yes, but then try to modify your music! Try to make the tape recorder print your music. Try to make the tape recorder change your easy key of C to

the tough key of B with five sharps. Try to speed up or slow down your playing so you can handle tougher parts. Try to make your one non-electronic instrument sound like different instruments on separate tracks.

Can't be done, you moan. Yes it can--digitally, via computer and MIDI.

And a Sequencer

Naturally, you need sequencer software that will let you do this, such as Hybrid Art's *EZ-Track Plus* or the newer Dr. T's *Tiger Cub*. Oh, oh--what's a sequencer? The first of many confusing MIDI terms, a sequencer is best understood as a multitrack digital tape recorder that makes it easy to manipulate music via computer.

So, for the added investment of a sequencer software program, two MIDI cables, and a MIDI-compatible instrument such as the amazing Casio PSS-680 Music Station or Casio's Digital Horn, you can have a modest home music studio for around \$500.

And Speakers

The main side benefit of adding a MIDI instrument, particularly a keyboard with stereo speakers, is that you can hear much better sound. (Note that not all keyboards come with speakers; even if they do, you still may want to add more substantial speakers to your computer music system.)

The Atari 1040ST, for example, has a fine, although seemingly strange, 3-channel Yamaha sound chip, but the single mono speaker hardly does it justice. The new Atari 1040STe has a standard stereo hookup for much better stock sound, but supplementary speakers still are great improvements.

Even adding a sound enhancer like TweetyBoard to the Atari 1040ST for around \$50 is an improvement, although it is iffy which non-MIDI programs support it. *Starglider II* and *MI Tank Platoon*, for example, sound great via TweetyBoard although many other games do not.

It is important to note that TweetyBoard also requires powered speakers before its contribution may be heard. In my case, I've hooked up two of the three cables from my TweetyBoard outlet to a Casio radio-computer-cassette-keyboard (a real gadget collector's item) to use its two standard stereo speakers, and the third cable to a separate floor model Casiotone amplified speaker (yes, the old one that L&Y had years ago).

The resulting three-speaker set-up can produce some weird sound splits. With little imagination, you can position the speakers all around you and feel as if you are in the middle of some simulation battle.

Making MIDI Music

But we digress: back to MIDI music.

There you sit with your keyboard coupled to your Atari via MIDI cables. You have loaded a sequencer

such as *EZ-Track Plus* or *Tiger Cub*. You click on some things that look much like any tape recorder controls, press a note on your keyboard, and Shazam! You are Captain Music!

Lost in rapture, you ripple up and down the keyboard, then stop your recording and play it back. Magnificent--precisely as you played it. And since it is digitized, you can edit it until you sound like anything from heavy metal to classical, although new age is most likely.

Well, almost. Actually, you have just immersed one teeny toe in a vast sea of musical possibilities. Such as? Such as switching to channel two, and recording a counter melody or chorus or drum track or whatever you want as you listen to the first melody you just recorded on channel one.

Wow, are we impressed? You bet. Depending on your synthesizer and software, you probably will be able to do somewhere between four and 20 channels, each with a different instrument sound if you prefer.

Well, maybe. You have to do lots more homework first. In fact, the first step in trying to do a different sound for each track is simply ... trying, again and again. The second step is convincing Nurse Cratchitt to loosen the sleeves of your strait jacket so you can repeat the attempt, shuffling back and forth from your software manual to your electronic instrument manual, wondering why nobody talks MIDI the same way.

Trust me: I exaggerate not. If you think plain ol' programming is confusing, wait till you try to master MIDI. Geewhiz, why? We have a computer (Atari) with a gizmo (MIDI) that lets us hook up to a keyboard (synthesizer) that lets us hear and write music much like using a tape recorder and a word processor. What's so complicated about that?

Sound's Hard

Well ... very early in the process of mastering MIDI we are confronted with the huge problem of not just digitizing symbols, but digitizing sound. Sound is multi dimensional because it has pitch (tone or frequency), volume (velocity, not speed but loudness), and duration (length).

Digitization being what it is, we can even modify digitized sounds to create our own unique sounds. While management of sound waves varies, it essentially boils down to attack (start of sound), decay (end of sound), sustain (duration of sound), and release (end of sound).

When you look at an electronic keyboard, all its sounds were created by somebody shaping sounds and saving them in digitized form. We usually name the electronic sounds for similarity to traditional sounds, but often the electronic sounds are much different.

(Time out for defense of electronic music sounds. Any electronic sound that does not match its tradi-

tional namesake has nothing to apologize for, anymore than any traditional instrument must defer to another. It's all a matter of taste. Not all people prefer the same sounds any more than they prefer the same music. Certainly an enormous variety of sounds can be captured or created, but truly matching the sound of some traditional instruments--particularly stringed instruments--has yet to be accomplished, according to many ears. The attempts that come closest often arrive only from expensive electronic instruments, yet some of the most inexpensive sometimes have surprisingly excellent sounds.)

So, where are we? Why are we already sinking in the MIDI quagmire? Because there is so much to absorb, that's why. Therefore, let's back up and take inventory.

For the Beginner

First of all, when trying to understand MIDI, start with a good introductory book. Two of the best are Using MIDI by Helen Casabona and David Frederick (Alfred Publishing, in the Keyboard Magazine library for electronic musicians) and MIDI for Musicians by Craig Anderton (Amsco Publications); look for them in music stores.

Second, buy the most basic computer MIDI software, e.g., *Music Studio 88* by Audio Light. Study the manual. Play with the program--have fun trying out all the features.

Third, consider upgrading your ST sound system by installing TweetyBoard to allow you to hear music through much better speakers than the token mono speaker in the ST monitor. Naturally, this requires that you have some powered stereo speakers available to hook up, e.g., in a portable tape recorder.

Fourth, buy some MIDI cables and an electronic instrument, e.g., one of the Casio CZ series keyboards, the Casio DigitalHorn, or some of the great-sounding Yamaha keyboards, particularly the dazzling PSS-680 Music Station that includes 99 voices, 99 rhythms, 32 percussion sounds, a digital synthesizer to create your own sounds, and auto accompaniment featuring bass, rhythm, chord, and even orchestra--if you can't be happy with the PSS-680 (which you can find on sale for about \$300), you can't be happy, period, unless you insist on velocity sensitive keys which will cost you at least \$550 for a different keyboard that may not even include speakers.

Fifth, get some MIDI software that allows you to play the electronic instruments and make real-time input into your Atari (meaning you can record music DIGITALLY just as you can record music into an analog tape recorder). Then get a companion scoring program that will write your music into a professional looking music score, just as a word processor prints out written documents! Two excellent software programs are Hybrid Arts' *EZ-Track Plus* (which displays

in standard music notation and requires a companion *EZ-Score Plus* to print out), and Dr. T's *Tiger Cub* (which displays in a new untraditional music form but includes score printing in traditional music notation).

For the Professional

Even these setups, which will require a total investment of around \$500, are not totally professional. Professional musicians insist on velocity sensitive electronic instruments--meaning the notes play as hard or soft as you strike the keyboard, much like striking a regular piano key.

Furthermore, the music software must be precise enough for SMPTE timing--that's Society of Motion Picture and Television Engineers. SMPTE marks the line between professional and hobbyist music software just as velocity sensitive does for electronic instruments.

In both cases, expect SMPTE or velocity sensitive to often double your cost. Hybrid Arts' *SMPTE Track*, for example, lists for \$399. Among the entry level velocity sensitive keyboards is the Roland D-5, which goes for around \$550. This Roland, like many upper echelon keyboards, has no speakers either.

Even if your keyboard does have speakers, the lower- and middle-priced keyboards like Yamaha and Casio usually sound much better enhanced by hooking into your home stereo system or reinforced by standalone powered speakers, such as some by Fisher for around \$100 a pair.

While none of this is cheap, it still provides incredible music making and music listening for about a fourth of the cost of a typical traditional piano, full-size electronic piano, or electronic organ (except these are velocity sensitive keyboards ... moaannn). Hooking instruments up to the computer provides incredible storage and editing not possible with the very limited recording and additional voice capabilities of some upscale keyboards and furniture-type pianos and organs.

To fully appreciate the MIDI possibilities, we must understand that the vast number of sounds available soon require handling via a software library program. Already we see how MIDI programs can be as isolated or integrated and as simple or complex as any other computer program; approaches to use, screen display, and output also can vary widely.

Making Tracks is Complicated

In using MIDI, one of the most complicated challenges is using tracks--putting different parts of music on different channels. This is primarily because, although MIDI achieves much standardization, different instruments usually have different voices on their track controls. What sounds one way on one setup will sound different if a different instrument is hooked up.

Music Studio public domain songs, of which there are many, are good examples. Some of the instrumen-

tation undoubtedly will defy replication on the particular MIDI instrument you have, e.g. the music is written for a piano sound on channel 1, but your instrument's channel 1 is synthesizer brass. You can change your instrument channel settings to find matching, or at least pleasing, sounds; but you won't hear what the composer heard unless you have the exact same instrument setup.

Worst of all, finding how each software program and each instrument handle track setup can be enormously frustrating. Whether you can, indeed, get a trumpet melody line on track 1, a clarinet counter-melody on track 2, a trombone on track 3, a bass on track 4, snare drum on track 5, etc. depends on a few more words you need to understand:

Multi-timbral--more than one instrument can be played at once using different MIDI channels;

Polyphony--the number of notes that can be played at the same time, e.g., eight, allowing a melody line of one note, a chord line of four notes, and rhythm line of three notes.

Sampling--the process of converting audio information (sounds) into digital information (numbers) and back again.

Quantizing--how what you play from a sequencer is tidied up when it is scored, e.g., how your jazzy 64th note intro is rounded off to an eighth note much more readable in sheet music.

So Why Bother?

Back to the three reasons for doing MIDI. If you want simply to listen to music, stay traditional with a stereo system and compact disc. If you want to write a brief, simple song with lyrics, you actually might want to stay with a pad of music paper, pencil, and a traditional piano.

For example, if you think your home music setup will be good enough to make your own demonstration tape to push a song you've written, guess again. To get insight into song writing realities, read You Can Write Great Lyrics by Pamela Phillips Oland (Writer's Digest Books, Cincinnati) or the latest Songwriter's Market (also by Writer's Digest Books).

If you want to modify music, record intricate passages that you couldn't normally perform, or create substantial music, then you probably will want a computer-sequencer setup that lets you handle music as a word processor handles words. But be prepared to invest substantial time toward mastering any MIDI music system, plus substantial money if you need top professional-quality like SMPTE and velocity sensitive keyboards.

Like many computer applications, MIDI is easy to appreciate but hard to master. The options are overwhelming. Those elaborate setups you see on music television, with all the black boxes and cables, are just as intimidating as they appear.

In essence, music writing on computers is the same strange combination of white collar and blue collar that word processing is. Many newsletters, for example, are written and produced by one person where before they required a writer and a typesetter. And many songs can be written and produced by one person where before they would have required a composer/performer and a scorer/sound engineer.

More Talents Combine

This democratic fusion of creative resources is as exciting for the studio engineer as it is for the musician because now each can move toward the other's expertise to more fully realize his potential. Yes, there always have been musicians who didn't read music and writers who couldn't spell, but computer innovations such as MIDI help free the mind from technical shackles--if you can adopt the mind-set necessary to mastering the possibilities.

In the case of MIDI, the learning curve can be severe. As usual, it is up to the individual user to grope through the cornucopia of choices to find the product combination that best matches his or her individual talent and interest. The good news is MIDI is as fun as it sounds. The bad news is MIDI is as hard as it looks.

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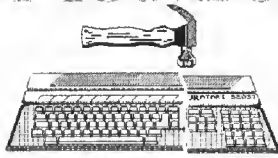


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by J. Andrzej Wrotniak

What Does Not Make a Programming Language

This is the second of my *State of Mind* columns, a series devoted to the main concepts of programming and programming languages. If you have missed the first installment (CN April), fear not; each part can be treated as a separate whole.

If you are not a programmer, read on. This is not a technical paper and you may benefit from reading it even more than if you were one. Chances are you were not exposed to much of the voodoo, which is so common in this area. (Many of us tend to describe as voodoo anything we do not believe in, and I am not an exception here. Well, at least I am willing to admit it!)

The Components of a Language

As we already know, a program performs *operations* on *data objects*. Therefore it has to consist of an unequivocal description of the former (instructions) and equally precise definition of the latter (declarations). When the size and complexity of the program grows, our ability to understand it and modify it will be greatly enhanced if the instructions are grouped in more or less black boxes, called *subprograms* (many other names are used as well), which, in turn, may be grouped in bigger units, frequently called *modules*.

On the other hand, data objects (such as numbers or characters) can be grouped in *arrays* (series of objects of the same kind) or *records* (grouping objects of different kinds). This process can be repeated *ad nauseam*--we may have arrays of records or records containing arrays and other records of lower levels, etc.

Our identification of the major components of a programming language will be, of course, arbitrary to some extent, but it should serve the purpose:

1. **Syntax and control structures.** These are quite low-level features, which decide how the programmer's instructions for the computer are written down: e.g. how to compute a value of an arithmetic expression, or how to repeat a sequence of instructions until some condition is met.

2. **Procedural and modular features.** These decide not only how subprograms and modules are written and used by other parts of the program, but also what data objects they can see and use, and how they exchange information.

3. **Data object structures and typing.** A proper design of data structures may, in many cases, decide on the success or failure of the whole project. This tends to be one of the most underestimated aspects of programming languages, especially among self-taught

programmers (this is not a derogatory statement, I admit to being one) or those who deal mostly with scientific applications (ditto).

We will now try to cover these three aspects one by one, but not without the unavoidable forward references, overlaps and gaps. References to the major programming languages will be frequently included, and at the very end (maybe in July, maybe in September?) we will reach the stage when a head-to-head comparison of those languages will be possible. Fill your water canteen, adjust your gear and follow.

You Do Not See a Forest...

Professor Niklaus Wirth from Zurich is the co-author of Pascal, and the author of **Modula-2** and (recently) **Oberon**. Directly or indirectly, his influence on almost all presently used computer languages (FORTRAN being a notable exception) is equalled by nobody else in the field. Professor Wirth's opinions may be accepted or disagreed with, but never ignored. One of them, voiced at his Turing Award lecture back in 1984, is a good starting point to a discussion of the programming language syntax:

"It is mandatory to distinguish between what is essential and what ephemeral [in a computer language]. For example [...] a coherent and consistent scheme of data type declarations [...] I consider essential, while the details of various for-- statements, or the distinction between upper-- and lower--case letters, are ephemeral questions..."

The point is not so obvious. Get a random sample of compiler (or language) reviews from some computer magazines, and you will see the reviewers often applying just the opposite criteria. You will see detailed comparisons of how many different keywords this or that language (or dialect) has, usually the more the better, with much less attention devoted to the modular features, and barely any--to the data structures. Do those authors have any idea what they are writing about? Well, usually they do, but from a different perspective--from the snail's point of view.

Who am I to cast the first stone? It was only in 1983, after 16 years of programming, when I finally appreciated the validity of Prof. Wirth's stance on the subject. It also took Prof. Wirth himself ten years or so (the period between development of Algol and of Pascal) to arrive at his position. Especially, again, if

your field is scientific (read: numerical) computing, the importance of proper data object design, and of having tools to do it, is very easy to underestimate.

I am raising this point here, as we are now just about to get into a discussion of language syntax and control structures. As important as this aspect of a language may be in daily use, as convenient or irritating the syntactic features of a language may seem, they still remain a secondary issue. When we discuss trees, let us not forget about the forest!

Syntax: A Matter of Convenience

We all know this: computers are dumb devices. We have to tell them what to do in a very precise and deterministic manner (sometimes being forced to do it this way will also allow us to see holes in our reasoning). In particular, the instructions have to follow very strict syntactic rules.

Thus, for example, data objects have to be denoted with *identifiers*, usually sequences of letters and digits. Some languages allow for some non-alphanumeric characters (the —underscore— character comes in very handy), some limit the length of an identifier to a given number of characters (often thirty-two, sometimes six, sometimes even just two!). Some languages (C, C++, Modula-2) treat upper- and lower-case letters as different characters (so that *Person* and *person* are two different object names), some do not (in which case they refer to the same object). This is, indeed, a very minor issue, although it may be quite irritating if you have to remember whether it should be a *NewPic* or *Newpic*.

Next, every language introduces a set of *reserved words*, used for specific purposes. It is usually illegal to use a reserved word as an identifier, for example, *do* cannot be used as a variable name in C, Ada, Pascal or FORTRAN.

And finally, we have also *delimiters*, which include, among others, operators, brackets and punctuation symbols (although the division between these categories is drawn differently in different languages).

Thus, for example, a line of code in C

```
family = family+2*kid;
```

means: “take the value of variable *kid*, multiply by two, add the result to the value of variable *family* and store the result in the same variable.” Both *family* and *kid* are, obviously, numeric data objects, although we cannot say from this line whether they are integer or real.

Beginners sometimes confuse the assignment operator, *=*, with the mathematical symbol, *=*, denoting an equality between both sides. In the mathematical notation this line of code would usually denote a false relationship, unless *kid* is zero. To avoid this confusion, some other languages denote assignment differently—for example, in Pascal

```
family := family+2*kid;
```

This is why the assignment operator should be pronounced as “becomes” rather than as “equal.” The equality operator, comparing two values and returning a TRUE logical value (or just 1 in some languages) is also a common language feature. For example, in Modula-2 the sequence of statements

```
IF (a=b) THEN
...whatever...
END;
```

will check for equality between *a* and *b*, and if they are, indeed, equal, then the statements ellipsed-out here as *whatever* will be executed. The statement will look almost the same in FORTRAN/77:

```
IF (a.EQ.b) THEN
...whatever...
END IF
```

but in Pascal the IF operator acts just on a single statement, and if we want a whole sequence to be executed upon a positive check, we have to glue it together with a pair of BEGIN...END brackets:

```
IF a=b THEN BEGIN
...whatever...
END;
```

The same brackets are also available in C and C++, although they look quite differently here:

```
if (a==b) {
...whatever...
}
```

The difference between C and the Pascal family goes further, even in this small example. The syntax of C defines *=* as an assignment operator, so that *a ==* is used for comparisons. To make things worse, the terse notation of C allows for the so-called side effects of expressions. Thus, a statement sequence

```
if (a=b) {
...whatever...
}
```

will not be flagged as an error. The program will first take the value of *b* and store it in *a*. Then, if *b* is non-zero, it will be interpreted as TRUE, and *whatever* will be executed. Note: we just wanted to compare *a* with *b*, and ended up assigning *b* to *a*, and then comparing *b* with zero! (This is such a common typing error, that many compilers will issue a warning here, just to make sure that this is what the programmer wanted.)

There are scores of those small syntax rules, some of them common to all popular languages, some peculiar to just one. Nevertheless, the differences are of a minor nature; it is usually possible to translate literally a piece of code from one language to another. Usually the more terse a syntax is, the less human-readable and error-prone will be the resulting code, but this is, to a large extent, dependent on the tastes and preferences of a programmer. Sure, using expression side-effects in C is dangerous and, I think, should be avoided; but, on the other hand, it sometimes produces delightfully puzzling one-liners, which we can show to our friends (to say nothing about in-

timidating a casual reader of our code and showing how smart we are). Do not buy a common folk fairy tale; a terse code does not translate into a faster running executable. This depends on the compiler.

Operators: More Than Meets the Eye

In our first example, we assumed that the multiplication of **kid** by two takes place *before* adding the result to **family**. This is because the generally accepted precedence of multiplication is higher than that of addition. For some operators, however, the precedence is not generally agreed upon. One has to memorize the exact order defined by the language. This is especially painful in case of building logical expressions like

```
IF a>b AND b>0.0 THEN ...
```

which in some languages (Algol) will mean exactly what it suggests, but in some (Pascal) will be undefined. This may call for use of parentheses--for example, in C

```
if ((a>b)&&(b>0.0)) ...
```

Moreover, in some languages *both* relationships will be always evaluated--in spite of the fact that an AND product is known to be FALSE as soon as either operand is determined as such, while in some others, smartly, **b** will be not compared with zero if **a** is not greater than **b**. Sometimes it may mean just some loss in the computation speed, but if the second operand produces a side-effect (this means if its evaluation changes a value of some other variable, as well), the seemingly identical pieces of code may lead to *very* different results. This is the difference between Modula-2 (where the second operand is not evaluated if the result is known from the first operand already) and Pascal (where both operands are evaluated always), and this is what once cost me a day of hard work while porting a seemingly trivial piece of code from one language to another.

A piece of trivia: Ada, the new language of the Department of Defense, has *both* forms of AND (or ELSE) operator: just a plain AND (or OR) means evaluating both operands, while AND THEN (or OR ELSE) means that the second operand will be evaluated only if the result is not known after the evaluation of the first one. Details, details...

The C language (and its much better successor, C++) has an exceptionally wide selection of operators, accompanied by the need to memorize the exceptionally complicated precedence rules. Well, when in doubt, use the parentheses!

Operator Overloading

Let us come back to our first example, somewhat simplified:

```
family := family+kid;
```

An at-a-glance interpretation of this line (allowing for differences in the assignment operator) will be much more difficult in modern languages, as Ada and C++. While in other languages the * and + operators

denote the obvious arithmetic operations, in Ada and C++ they (and most other operators) can be *overloaded*, to denote programmer-defined operations for programmer-defined data types.

This means, that as long as **family** and **kid** denote numerical data objects (variables), both operators have the usual arithmetic meaning. It may happen, however, that **family** is declared as a **Family_Type** object, containing an aggregate of data on a whole family, and **kid** - as an object of **Person_Type** (together with name, age, eye color, Social Security number and what else). We are postponing the data typing discussion to a later installment of our series; let us now just state that such things are possible.

Now, in C++ or in Ada, a + can be defined by the programmer as an operator expecting two operands: the left one of the **Family_Type** and the right one of the **Person_Type**. The operator will now somehow reflect an addition of a new family member (possibly adding him/her to some internal table, and updating some vital family statistics), and it will return, as a result, the updated **Family_Type** object!

How will an Ada or C++ compiler know, whether we mean a "normal," i.e. arithmetic +, or one adding a person to a family? Obviously, from the types of operands between which our + is placed! We may define any number of + operators as long as they differ in operand types; an operator combining two **Family_Type** operands is an obvious example.

Neat, you say. Yes--neat, but just that. The same thing can be done in C or Pascal by defining addition of a person to a family not as an *operator*, but as a *subprogram*, so, for example, the corresponding line in C would be

```
family = Add_PF(family,kid);
```

and in Pascal (which does not allow for returning structured data objects via the function name):

```
Add_PF(family,kid,family);
```

Sorry for this jump forward--we have yet to say more about subprograms, but we will come back to this example in the future. What we want to say now is, that operator (and other) overloading is a nice feature, but it is not what makes C++ and Ada stand apart from their more down-to-earth competition.

Control Structures

This is another issue leading to many misunderstandings when different programming languages are being compared. The rule of thumb is when you read a book saying "Structured programming is when the programmer does not use GOTO statements...", just consider reading something else; the author has a long way to go in understanding the essence of the problem.

Control structures are the language tools which the programmer uses to direct the flow of processing. The simplest (and historically first) is the humble and frequently abused (though sometimes admittedly mis-

used) GOTO, allowing for a jump to an indicated point in the program, as in this Pascal example:

```
IF a > 0 THEN GOTO 10;  
...whatever...
```

```
10: ...more work...
```

Here if *a* is positive, the program will skip *whatever* and jump to execute the code denoted as *more work*, otherwise it will execute *whatever* and then *more work*. This example can be re-written in a more readable (but, indeed, not in a more *structured*) way with use of the IFTHEN construct shown before.

So when does the GOTO misuse begin? First, if the same thing can be expressed in a more readable way with use of IFTHEN or other constructs, this will be usually recommended. Second, if you draw lines between your GOTOs and their destinations, and if the program regions defined this way overlap (as opposed to being disjoint or nested), then something is definitely wrong in your design.

Eighteen years ago I wrote a small (60 lines of FORTRAN code) but fairly complicated subroutine to simulate a random development of an electron cascade through the atmosphere. The computer I was using was *very* small and every word counted. This, and my own inexperience, were responsible for the multiple intersecting GOTO ranges. The thing works (just brute force!), but out of 30 or so users scattered on four continents, nobody ever dared to introduce the smallest modification to the logic. Each time I have to do it, I tremble in a cold sweat. The price you pay for want of structure!

Even if the structure of your program is right, usually it will be more readable if, instead of a GOTO, a more elegant control structure is used. For example, the sequence

```
if (a>b) {  
    ...whatever...  
}  
else {  
    ...other stuff...  
}  
...more stuff...
```

means in C: if the value of *a* is greater than the value of *b*, then do *whatever* and follow to *more stuff*, otherwise do *other stuff* and follow to *more stuff*.

This control structure exists in all popular programming languages (except some more primitive dialects of BASIC, but we are talking *languages* here!). The only thing which surprises me over and over is, that Messrs. Ritchie and Kernigan, the fathers of C, used just plain English words *if* and *else* here, instead of some more macho-looking symbols, like *?* and *?*, which would be more in the terse UNIX style (well, this is one of the very few omissions!).

Another common control structure is the loop. Earlier versions of FORTRAN, for example would use

```
DO 10 i=1,n  
...whatever...  
10 CONTINUE
```

to execute *whatever* *n* times (with the value of *i*, changing from 1 to *n*, possibly being used inside the loop). The same structure in C would be

```
for (i=1; i<=n; i++) {  
    ...whatever...  
}
```

and let me spare you the other versions, all of them are self-explanatory. There are also loops in which a condition is being checked at the top, like in this Pascal example

```
WHILE z>t-2 DO BEGIN  
    ...whatever...  
END;
```

and loops with the condition checked at the bottom (in which case the loop will be always executed at least once) like:

```
do {  
    ...whatever...  
} while (x!=1);
```

(in Pascal you use **REPEAT** and **UNTIL** here).

Things are becoming somewhat more ugly when you feel an urge to leave the loop while neither at its top nor at the bottom. You can do it quite easily in C, for example:

```
for (i=1; i<=10; i++) {  
    ...some work...  
    if (x[i]==y[i]) break;  
    ...more work...  
}
```

or in Pascal:

```
FOR i := 1 TO 10 DO BEGIN  
    ...some work...  
    IF x[i]=y[i] THEN GOTO 10;  
    ...more work...  
END;  
10:...whatever follows...
```

but in Modula-2, with neither a functional equivalent of **break** to jump out of the loop, nor a **GOTO** to jump to a pre-defined label, this simple example becomes a little nightmare. Take my word for it.

But again, well-designed control structures are a convenience, but not a necessity. It is usually quite easy to work around the language limitations here, and the set of control structures included in the language (or its extended implementation) should not be the decisive factor in choosing the compiler.

Let us postpone the subject of structured programming until the next month, limiting ourselves just to the brief glimpse of necessary--or useful--tools which *may* be helpful here. To avoid going into details, I will only state (take my word or not) that two languages stand out of the crowd in terms of expressive control structures: Ada and (surprise!) True BASIC. The latter should not be confused with just a BASIC, as the differences between, say, True BASIC and Atari

BASIC are greater than between Ada and standard (i.e. not extended) Pascal.

Thus, for example, True BASIC allows for two kinds of condition checking at both ends of a loop and in the middle, as in

```
do until i = 25
  ...some stuff...
  if z(i)=y(i) then exit do
  ...more stuff...
loop while z(i)<100
```

which may seem like a little overkill, but does not hurt, while Ada allows for jumping out of nested loop (through an exactly defined number of levels). In other languages you *have* to use a GOTO statement to do this, except for Modula-2, where you have to end up with some very ugly code.

Other constructs, like the CASE statements, have equivalents in most of the languages, and the minor syntax differences do not really deserve our attention.

Enough said, a syntax is a syntax is a syntax. Risking repetitiveness, let me re-state: syntax and control structures are the minor niceties (or annoyances) of a language. On this level, virtually everything you can express in one language, can be expressed without much extra effort in another. The real programming (and the real differences between programming languages) begins at a higher level--and we are going there next month.

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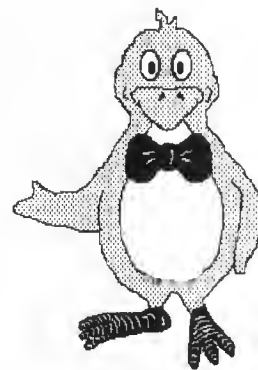
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"I Remember ..."

by David Small

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There's all sorts of technical things I could write about for you this month. We've got an accelerator for the ST that makes the thing run faster than the newest Macs; networking; ... well, you know. And I could throw in a full set of tech-
nowords, too, like MegaHertz and rise time and edge triggered event counter and paged memory management unit and virtual memory. Zowiee.

I just don't really feel like talking about them right now.

I suppose it was the mix of seeing Battlezone at the arcade and talking to a friend in Cupertino that did it; it finally brought on this column. (You'll see why in a bit.)

It's a column that I've thought about writing for a long time, but never really had the nerve to write. First, it's hard to write about something that affects you personally. Second, columns like this one have a way of getting people upset, and I don't need any looney-tune mail any more than you do. Many people have **EXTREMELY STRONG FEELINGS** (get the idea?) on this subject, and they can just whip off a letter to me in email in no time at all.

However, let's give it a try.

It's personal for me.

I remember Nick. Met him on an online computer system. Nick got me a job at (xxx--a leading computer manufacturer, name deleted for lawyerish reasons. Please understand that some people spoke to me on condition their names or companies would never be mentioned). Nick was gay and didn't make any big deal about it. He lived with my boss at the time; big surprise, both were gay. Neither

one went out of their way to advertise the subject and it didn't bother them even slightly. They lived down by Saratoga in Silicon Valley in a nice house and had a fascinating project they were working on.

In Silicon Valley, it's simply irrelevant if you're gay or not to most computer people. You run across the occasional fanatic or preachy type, but most people just don't care and don't consider it their business.

Nick became a self-taught expert at tuning (xxx) mainframe computers -- allocating faster disk drives to disk intensive operations, de-fragmenting much-used files, and so forth. He brought the performance of one maxxed-out machine up 200% in a month of work. He was darned good at what he did.

I had the same co-worker relationship with Nick that I had with anyone at that facility. We "did lunch" a few times. He had his hopes and dreams, and I had mine; we'd talk about them. We were both fanatics about the arcade game "Battlezone," which had just come out, and when we came up with a way to spoof the smart bombs, it made our whole week.

In '80 I was busy getting Sandy to say "yes" to getting married (which ought to tell you where I'm coming from) so I wasn't interested in any other relationships, so it was just a friends type thing.

So you'll understand it's a little hard for me to tell you that Nick died of AIDS not long ago.

As for "denial," I don't know if my former boss is alive or dead, and I can't bring myself to pick up the phone and call and find out. Just writing about this is enough to

give me a lump in my throat, because Nick was a friend, and all he ever could have been is gone now. And I don't think I'll play Battlezone again for awhile, if you know what I mean; it's a way to remember.

Back in 1980 when I knew Nick, the medical community was just starting to wonder what on earth was going on with all these sarcomas (skin cancers) in gay people ... well, now we know. And in big numbers.

Come to think of it, it's getting to where many people know someone who has tested positive. My brother, a doctor, had a close friend from high school (ROTC, Rifle team, straight-A student) die of it recently, and sees so many AIDS patients that he's lost his "doctor impersonality" on the subject; he hates AIDS with a passion. My dad lost a co-worker recently. And so forth.

In 1980, I talked with a guy from Personnel at the (xxx) company. I was leaving the company to marry Sandy which involved me moving out of town, and we'd known each other for awhile, so we had a few beers and talked about things before I left. Somehow the subject of gay co-workers came up.

He was very honest about it. He said it was more-or-less defacto company policy to prefer to hire gays when possible. Oh, not for some affirmative-action quota, but simply because the company felt that it got more work out of gay workers than other people, at less cost.

Look, he said. You (he pointed to me) are going to have a wife, family, all sorts of health insurance

expenses, especially with kids. Braces, too. You have to be home by 5:30 for dinner and your wife is going to want to see something of you while you're home. You can't do "all-nighters."

In contrast, if you're single and unattached, you can work "round the clock" hours. (Of course, since you're an "exempt," you don't get paid any more for those hours--it's not an hourly system.) And most importantly, you don't have a family -- no health insurance worries except for yourself, and heck, you're young and healthy. (The present discussions of AIDS coverage for others did not exist in 1980).

It's great for the company, he said. That's why we do it.

The xxx company, in fact, had done so well on the gay hiring program that 7 of the 9 people in my working group were gay. I didn't know this until literally the day I left the company, there was so much discretion around the place.

Now look, let's be grown up here. This was a normal office. These were the same sort of people you work with, too. I got along with some, did not with others. There were the usual company politics and memos and b.s.'ing. It was No Different than any other job I've had since. I wasn't harassed nor made to feel outside some "clique."

I've also worked at other companies since, where coworkers were gay, and it doesn't matter a whit. In my values, either the person can code and get the job done, or he can't. Nothing else really matters, because there are so few programmers who are really good that when you run into one, you don't care about much else.

Well, as you know, times have changed since 1980.

The (xxx) company is now getting swamped with staggering hospital costs from AIDS. I talked with an upper level manager there whom I've known for years about it. Now, he wouldn't discuss num-

bers except to look a little pale, but they said the hiring in the 70's and 80's was hurting them badly in health insurance, and there was a flat ban on hiring anyone with AIDS these days. And he told me the project that Nick and my boss had worked on was over, because Nick was gone.

I won't go into names, but if you owned an 8-bit Atari computer and used some of the more popular software for it, you probably used some of the code my work group was involved with. And if you used an 8-bit in any depth, you've definitely run programs written by people who are now dead. I knew them and knew of them back in '82 when I was writing for Creative Computing and spent time at Atari. (Heck, I remember when the entire upper floor of 1196 Borregas was Chris Crawford's office-- it's now half of the whole Atari building.)

I'll pause for a minute and tell you it makes me feel very strange, in a nightmarish way, that the only epitaph for many of these people are some magnetic bits on a floppy disk being set in a particular pattern, to their program. All else is gone.

Many computer people have, err, extremely limited social abilities, and aren't going to be having much in the way of relationships to begin with. You don't really perceive anything in the way of sexual orientation because there's so much else.

I mean ... when you talk to a world class programmer who has his computer, his bed, and his exercise bicycle in the same room, and who hasn't taken a shower in five days, you just have to stay upwind. (I've done this more than once.) Many of these people are gay; because the prevailing morality is, "It's none of my business," it doesn't get talked about. (I'm not advocating it be talked about; by the way)

Incidentally, much of the computer press shares this particular sexual preference; it tends to bias

the writing for them. When I read a story about a person who I know is gay, and they have written certain things, the meaning changes a lot...

You have to read between the lines, because gay people have grown used to staying a bit reserved. For instance, let's just hypothetically say that in an interview, someone was quoted as saying "a new computer was designed by a group that all had a compatible style because they didn't have time for personality conflicts." You can translate that one for yourself. You wouldn't believe me if I told you it was true, either, would you? Nope. Well, I hate to tell you this, but it is, to my absolute certain knowledge... and I've been REAL hypothetical and vague here because I don't like lawyer visits. And, really, it would be an unwarranted invasion of privacy for me to name the company and the people and the time frame and the code and the microprocessor. But I do know it.

Or, how about Apple? I've talked to many people there over years. Some of them even moved from Atari (back in the Bad Old Days of '84, Apple lifted a hiring freeze to take in the Atari people that were being laid off en masse.) Others even moved in the ST era.

It's always the same talking to Apple folk about this subject. It's a very cliquish company; either you are inside or you're outside, period. So first they sort of talk easily with you, get to know you, make sure you're not going to either preach at them or be shocked at someone's personal life. Typically they'll mention that someone is gay, and see if you look shocked. If you don't even blink, then there's no problem. After that, then they'll tell you Apple is absorbing very very high costs for medical care for some of its people, and quietly open your eyes as to some of the people.

I was told by a trusted friend that Apple is one of the few companies that will even look at hiring you if you've tested positive, or will

help with medical costs if you live with someone who has. This friend of mine expressed amazement that Apple can still afford to do this; me, I think I know where a little of the money from the twin Mac IIx computers at Gadgets went to. (And, look, I'm happy it's that way.)

But the communication is very quiet, always person-to-person. It doesn't make headlines, because the first thing that happens when it goes public is people start yelling. You know ... you've read the same things I've read about AIDS. Either "It's Because of Sin." or "Not Enough Is Being Done." or whatever. It's all been repeated a hundred times and I am not going to get into that here.

Frankly, I don't give a damn about the high level philosophical discussions, the preaching, and I doubt my feelings would even slightly affect the FDA.

Some of my friends are dying, that's all.

At MacWorld a time or two ago I sat and watched Bill Atkinson, who wrote Hypercard, demonstrate it. After showing its fantastic capabilities, the object-orientation of it, the last thing he showed was the "AIDS Stack"--which ticks by the number of people who have died of AIDS, updating each minute. It was a total downer to end an otherwise enthusiastic presentation and a psyched-up audience admiring a genuine programmer-hero.

As a friend of mine at Apple said, "Look, Bill knows people who are dying. They're his friends, been there for years. What else is appropriate for a demonstration, in his eyes?"

And I have to agree. I'm just not sure I'd have the guts to do it as Bill did.

I hate to depress you ... but if you've used the Mac, or a Spectre GCR, in fact, you've run programs written by people who have died of AIDS.

If you're in the Bay Area most of this isn't news to you. It gets talked about in the papers. Outside

there, it's much more underground, except in a few communities where there's a high percentage of gay people. Online, there are ALWAYS closed & locked conference areas on about any large computer BBS (closed because the looney-tuners tend to disrupt the conversation) but they ARE there because the people are sometimes lonely, desperate, and need to talk to others.

If you get to know the people as friends and they really really trust you, perhaps you'll be allowed into the conference area. I've been there. The conversation can be terribly depressing. What do you say to someone whose best friend just died? What can you say to someone who's just gotten a positive result on their test? I have never been able to leave a response; I don't know what to say. For instance, I can't imagine losing my wife Sandy slowly, over a period of time, as painfully as what happens; it's beyond my imagination.

And the anger at the slow drug approval process of the FDA is pretty overwhelming. (I understand a bit more of this since my brother is a doctor; the FDA must be terribly careful in what it does. But the number of people dying from AIDS makes experimental research a moral thing to do, and the increasing death rate means we'd better move it, folks.) The more "push the envelope" folks in the underground bulletin board scene discuss getting new experimental drugs in from China ("Compound Q") or over the border from Tijuana, or tell you who to talk to if you'd like some home-brewed other compound (some underground chemists are very good), and ALL about AZT (which is the only officially approved treatment so far--with some definite pluses and minuses).

But look. If ever there was a subject more fitted for discussion on computers, I haven't seen it. The people on the computers need to talk about it; I wish it could be more open, but with the prejudice and stigma still in our society,

there's no way. Some people have come out online and admitted they're gay, and they take a great deal of flak for it; I guess there's nothing like a computer to isolate two people enough for one to dehumanize the other.

In the meantime, would you care to guess how many software and hardware projects, particularly those in Silicon Valley, are delayed or dead because the people just aren't there to do the job?

My manager friend at (xxx) flatly stated that several big projects had to be dropped or scaled back or spread out over years -- and delaying a project in the fast paced industry is often a death grant. The health insurance costs are diverting large amounts of money from projects as well; not only are there not enough qualified people, but not enough funds.

Now think of what you've read in the computer press about delayed and dropped projects, particularly those that involve massive amounts of people and money. Read between the lines. The companies will stiff-upper-lip you, but I wonder how much AIDS has contributed to the delays? I don't think it's a question of "if," it's a question of "how much."

And in spite of managerial courses, the truth is that a few critical people are usually the ones that make a company live. When they leave, the company withers. The same thing happens if they die.

If you were with us back then, think back to 1980, to the names and games that were really hot back then. Now think: where are those people now? Warning: the answer may haunt you. (It does me.)

Some of the names you still see. (I'm still here!) Some of the names have moved ... oh, Russ Wetmore went to Apple after writing Preppie!, did the Kolor cdev and a whole bunch of stuff he can't discuss, then moved on ... John Harris of JawBreakers fame retired and is raising horses, but still likes 8-bit programs ... and so forth.

And some of the people are gone for good. People I met at computer shows, people I went to dinner with, folks I debated the merits of Mac/65 vs. ASM/EDIT with. People whose floors I slept on while going to computer shows. I won't invade their privacy with names; it would be wrong to do that. But it's always eerie for me to go through a list of 8-bit software in an ad and see a program written by someone I knew who's now gone.

I wish I had a conclusion for you. I don't. We have a high percentage of people in this industry who are gay, and there's this disease that kills them. I let people who know what they're doing say whether or not enough is being done; coming up with something to wipe out the AIDS virus is a whole new page in medicine, not just some minor thing, and doctors are as depressed as anyone else that they can't help someone who's dying. (Who else would be more depressed? Think about it. Doctors are used to fixing people up.)

It doesn't really matter what your opinions are on being gay or about AIDS. The fact is that right now, it's affecting your computer world. Things are not happening as quickly as they could be and some of our most talented people are gone; others are going. Some of these people are priceless in their contribution to the industry; we will miss them when they're gone. And your costs are going up to pay for the medical treatment.

And it is going to get worse before there's even hope of it getting better.

Please don't read one breath of blame in here towards people who have this disease. I don't feel that way; I hate the disease and what it's doing, not the victims caught in the middle. The same goes for being gay; it doesn't matter a whit to me.

Well, that's what I have to say. This particular article's over, and you can turn the page, thank heavens. I mean, this makes Atari's dealer situation look great by comparison.

But when I think of Bruce or Nick or Levon or Gary or Jill, it's **never over** in my mind. I'll remember them, and the ones doubtlessly coming in the future. I'll remember; it's all I can do.

Conclusion

I go over columns several times before sending them in for printing, and I'm still not completely satisfied with this one. I think I know why; when I mentally set up a column, I set up a starting point, the flow, and the ending. This story hasn't *got* an ending, which trips up the writing process.

But also, I'd like to mention this has been one of my most difficult columns to write, for the memories are painful. You see, when my pal called from Cupertino a few days ago, I learned another friend was gone; I saw him just last October...

See you next month, when I hope to return to technical talk.

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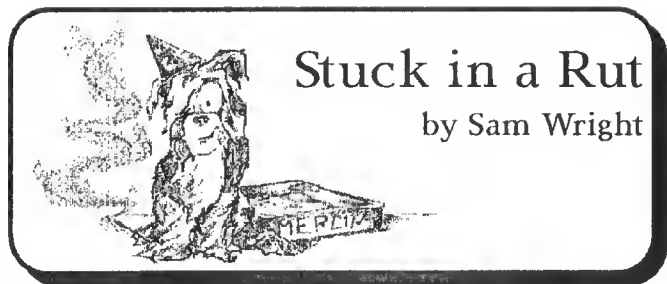
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Stuck in a Rut

by Sam Wright

Are you in bed? Sit back and pull the covers up. Comfortable? I'm going to tell you a story.

Once upon a time, after the passing of the Second Shadow, skilled labor once again became valuable. No longer were there any more mysteries of life and darkness; science had seen to that. Humankind reverted back to industry.

It is now the Age of the Great Guilds, a time when city-states control knowledge, and thus the world commerce. Certain tradespeople have joined to form highly competitive guilds, such as the glassmakers, blacksmiths, and shepherds. Others are only interested in doing their jobs to the best of their abilities. One such guild is the Guild of Weavers.

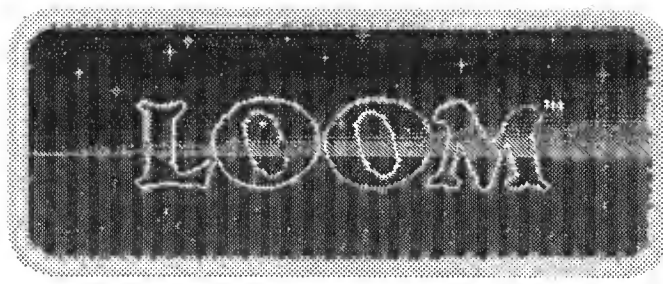
The spinners of thread and weavers of fabric were possibly the smallest guild of them all, restricting new membership to children of current members. Marriage outside of the family was forbidden; it was thought the purity of the Weavers' skills would degenerate. The Weavers' work was highly coveted and valued, not only for the extraordinary fabric weaved, but for its transcendence into a higher commodity. Each draft spun, you see, revealed an enchantment of combined light and music. Certain drafts had powers of healing, others had powers of aphrodesia. All were envied by the outsiders.

Naturally, the other guilds were jealous of the success of the Guild of Weavers. They looked down at their inbreeding and refusal to conform to the standard philosophy of living. Calling them witches, they persecuted many of the Weavers and even hung some.

The Guild of Weavers retreated to an isolated island and, as time passed, were soon forgotten. The Weavers were able to work in solitude, honing their skills further.

But all was not well on the island of Loom. The Guild of Weavers was slowly dying out; thousands of years of inbreeding began to take its toll and threatened their future existence.

One woman, Lady Cygna, thought of the powers the drafts contained and had an idea. Surely, she thought, there must be a way to spin a draft to create.... Ignoring the orders from the Elders, Lady Cygna gave birth to Bobbin Threadbare, the Loom-Child and the purest child ever. Enraged for her disobedience, the Elders changed her into a swan and banished her from ever setting foot on the island again.



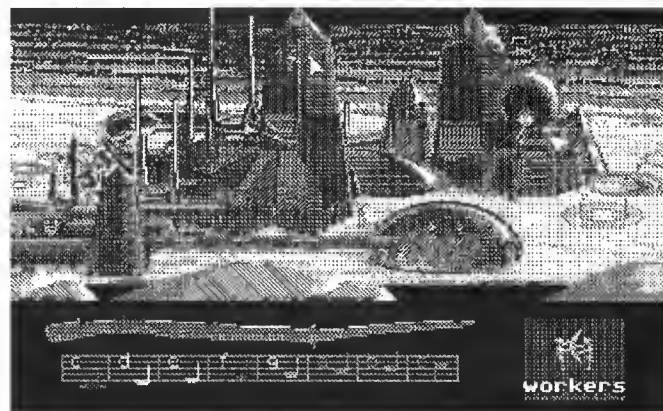
The Elders feared Bobbin, thinking his birth opened up a stitch of chaos. For this reason, they forbade him from going to school and from learning the skills of a Weaver. If he had the knowledge, they thought he may use his powers against them.

Bobbin was raised by Lady Cygna's nurse, Mother Hetchel. Unbeknownst to the Elders, however, Mother Hetchel had already begun Bobbin's education.

Hooked yet? This history of Loom is enacted on a 30-minute stereo (!) audio cassette drama packaged with Lucasfilm Games' *Loom*. The game picks up with you, as Bobbin, on the morning of your 17th birthday, your height of maturity.

Constructed as a mythical fairy tale (with Tchaikovsky's *Swan Lake* as the soundtrack), *Loom* easily draws you in--to the story, that is. Actual gameplay in the standard sense is severely limited. First and foremost, *Loom* tells a story. And it's going to tell you the story that it wants to tell you. Your being the main character doesn't have any effect on proceeding events.

In this way, *Loom* is a linear animated adventure. It's also extremely easy, with most of the solutions to puzzles being only one room away. This is what Lucasfilm Games intended, I think. They designed it to be completed, "not played halfway through and then thrown on a shelf and forgotten" (according to the manual). They've succeeded in this regard; it shouldn't take you more than a few hours to complete. True, you don't get that ah-ha! satisfaction of solving puzzles, nor do you feel you've gotten your money's worth. But always, you'll be entertained, thanks to *Loom*'s strong story. I even forgive the story from diverting where I



People who live in glass houses shouldn't be invisible.

thought it should've gone. Keep in mind that the above history of *Loom* is just that. When you take Bobbin's destiny into your own hands, you have seemingly one quest. This, of course, opens up into a completely unexpected, darker story, but I'll talk about that later.

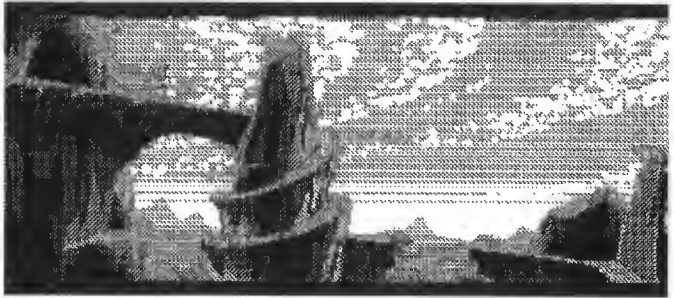
Loom comes with three unprotected double-sided disks, which you're encouraged to back up. The game can be transferred to a hard drive by simply copying all the files into one directory. Twelve slots of saved games are available--more than enough for a game where you can't die and can't do anything that doesn't further the storyline.

Along with the audio cassette, a well-written eight-page manual and ST reference card are included. The Book of Patterns, a handsome parchment-like book, serves as the place to write down all the drafts (spells) you find. Inside the front and back covers is the copy protection: a series of Guild symbols and Thread names you have to match up with what's displayed on the monitor. Making it impossible to photocopy legibly is Lucasfilm Games' trademarked red pattern (this time swans flying instead of "Loom" repeated over and over) all over the symbols. The red gel also included is not really needed; the blue symbols show through the red enough for you to make out the notation.

The user interface is unique and simple. Like other animated adventures, you control Bobbin with the mouse. Point where you want him to go, and he'll navigate his own way there. This is especially a relief from having to direct him every step of the way. Unlike other animated adventures, the parser is only a staff of musical notes, from C to C in the key of B flat. The entire game is played by moving Bobbin and spinning drafts (casting spells) at objects.

Magic figures prominently in *Loom*, although it's rarely referred to as such, perhaps because of the negative connotations of witchcraft, the reason many of the Weavers were persecuted. As Bobbin, you're a Weaver, so getting the terminology correct is important. For instance, musical notes are called threads. Four threads make up a spell, or draft. To cast a spell, you spin a draft.

Linked to magic is music. The parser is a musical staff beneath a distaff. The distaff is required to spin drafts. Without it, you have no power. In the hands of others (along with knowledge of the drafts), they also wield its power, so be careful (well, there's no way to drop anything, anyway, so just take that as a foreboding warning). This is how it works: Throughout the game, you'll hear a draft. As you hear the threads, the appropriate notes on the staff light up, which you'll want to quickly write down before you forget. That's what the Book of Patterns is for. There are 29 drafts listed, each with a draft name, explanation, and an empty musical staff with space for you to write down



This twist of fate could lead to your eventual undoing.

the notes. You can usually figure out which draft goes with which by the pictures in the Book of Patterns or the objects from which you've learned the drafts. Here's a hint in advance: Some of the drafts also work the opposite, increasing the draft potential. Once you've heard the draft, you can spin it on other objects, assuming you have enough experience. At the beginning, you can only spin drafts with threads C, D, and E. As you progress, more threads will be given to you, opening up your spinning potential.

There are three levels of play: practice, standard, and expert. In practice mode, you have the advantage of being able to record the last draft you heard. A box will appear below the musical staff with the notes inside. This is useful when you hear a draft that for some wild reason doesn't light up your staff. Standard mode is as described in the previous paragraph. In expert mode, you play by ear. You only have your distaff with you, without the aid of the musical staff. Furthermore, whenever you hear a draft, your distaff doesn't light up. All you have going for you is your hearing. To reward you, though, there's an extra animated scene which doesn't appear in either of the two other modes.

Loom, like other Lucasfilm Games' adventures, contains many cut-scenes, or animated sequences, where you can do nothing but watch. These can sometimes go on for several minutes, and at times seem collectively longer than the time it takes you to play the game. These cut-scenes (so termed because pressing the ESC key will abort them) hold much of the plot and are frequently amusing (I like how most of the characters pace while talking).

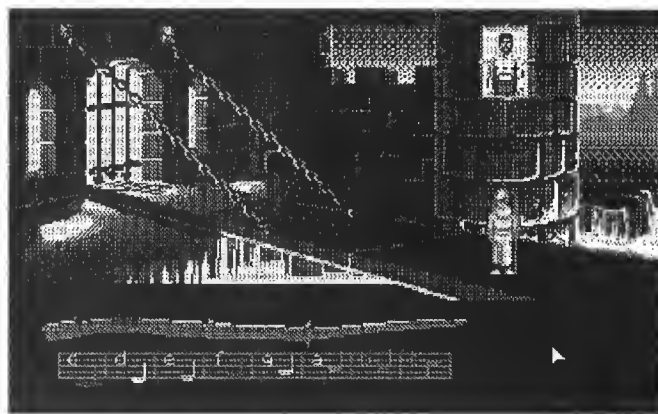
Drawing from images of fairy tales (e.g., Rumpelstiltskin and The Ugly Duckling) with a good dose of its own originalities, *Loom* is a fantasy game with many innocent qualities to it. You can't help shake a sense of wonder while playing. Throughout the game are many objects recalling how precious and respected the Weavers' abilities are (your robe and distaff, the tents, the wool, the tapestries, etc.). You can't help being proud you're a Weaver.

What starts out innocent enough, though, soon turns very Grimm indeed. I must admit, however, there's plenty of subtle foreshadowing at the first half of the game (why are all those graveyards in the

game, anyway?), but not enough to suggest where the storyline's heading. To me, it was completely unexpected. Essentially, the game becomes violent. As stated before, you cannot die and cannot be harmed, nor can you kill or harm others. But that doesn't mean others can't harm or kill others. A perfectly nice and polite dragon becomes not so nice and polite. A particularly graphic scene with Bishop Mandible completely caught me off guard. It was very affecting but didn't need to be; it didn't fit in with the rest of the game. One final example is who you are. Cows are worn over the Weavers' heads not for religious purposes but because, according to legend, anyone peering at the face of a Weaver will meet a rather untimely death. Why would the gamemakers put something like that in? As a reason for all those years of inbreeding? To say with good there's evil?

Despite the violence, I really liked this game. It was a powerful story that had a definite cinematic quality to it and might even make a good movie. I hope Lucasfilm Games does make a sequel, as they've spent so much time setting the ending up for one. Besides, I want another chance at using the remake draft on a certain person.

Loom (\$59.95), from Lucasfilm Games and distributed by Electronic Arts, runs on all color Atari STs and comes on three double-sided disks. It is copy protected by documentation (symbol-matching at boot-up) and can effortlessly be run from a hard drive, filling up just under 2 megabytes of space, not including saved games. Twelve saved games are allotted for, each checking in at around 19K. Version 1.2, 16 May 1990 was reviewed.



Funny, you don't look like a blacksmith to me.

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GramSlam ST Grammar and Style Checker

Review by Bob Ledbedder

Finally, the King's English. Finally we have the last addition for the word processor's tool box, a grammar and style checker. Although not as "polished" as the checkers I've used on other machines, it is a workable and welcome addition.

GramSlam comes modestly packaged from Phil Comeau Software in Ontario, Canada and that's okay by me. My computer doesn't run containers very well anyway. What's inside, though, is a program which checks for common grammar and writing-style problems; has a built-in problem phrase editor; gives you writing style and readability statistics; works with all word processors and text editors; can be run as a desk accessory or from the desktop; and runs in color or monochrome, on a 520 ST, 1040 ST, STe, or Mega.

I've only used it with *WordPerfect* (my favorite) and *Word Writer ST*, so I can't vouch for its compatibility with other WP's. However, I've encountered no problems with it on a 1040 STF or STE.

Best as a Desk Accessory. Because of its method of operating, I think *GramSlam* works best as a Desktop Accessory. When running it as a program you must save the suggested corrections to a file it makes called GRAMSLAM.OUT. Then you run your word processor, load your document into one window and GRAMSLAM.OUT into a second window, size them so they can be viewed together and proceed from there. However, if you install it as a DA, you eliminate the exiting/running/re-running steps. You simply pull down the DESK menu, activate *GramSlam*, choose Set Options, select to GRAMSLAM.OUT and let it do its thing. When it's finished, open a second window and load the textfile GRAMSLAM.OUT and scroll through the window containing this file. Note: if you wish, you can have it send your problems to your printer, display them on the screen or save them in a disk file.

Switching Windows. When you come to an error you wish to correct, switch windows, find the location of the error, correct it, and switch back into your other window. This is where I feel *GramSlam* falls a little flat. The other grammar checkers I've used pull your document in, look it over for errors and allow you to make the changes then and there, and upon exiting they create a corrected file for you. However, it is very nice to at least have a grammar checker.

Spelling Preference: Rumor or Rumour. You also have the option of choosing the type of spelling you prefer to use, American or British. This applies only to spelling, which means your documents will still be

in "American" even though your spelling may be "British." That's assuming you're writing in English.

There is the possibility of creating and/or editing problem phrases. For example, I have a definite distaste for redundancies, such as "it is a very unique store," or "for each and every one of you," or "at 10 a.m. Tuesday morning." This feature is a good specialized bug catcher, and one I've not found on the other grammar checkers I've used.

Being Tough on Yourself. Another option is the "Reporting Level," which defines the severity threshold for problems *GramSlam* reports. With this option, you indicate the severity of the problems *GramSlam* should report. Your choices range from "0" to "9." Selecting a high reporting level decreases the number of problems *GramSlam* reports, and selecting a low level increases the number. If you select "4" as your reporting level, *GramSlam* reports only problems with a reporting level of five and above, but does not report problems with a reporting level less than five. The manual, which is well thought out and put together, goes into great detail to define this area of the program.

Short Comings Aside. *GramSlam* is welcomed to my library of software for the ST platform, and even with its short-comings, I would recommend it to anyone who processes words.

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SuperCharger Revisited

by Sam VanWyck

It wasn't until after the publication of Milt Creighton's extensive hands-on review of *SuperCharger* appeared in the April 1990 issue of *Current Notes* that this writer felt ready to try the waters of the MS-DOS world for a second time; an earlier attempt at using *pc ditto II* proved both painful and expensive. For many of us, computer use fosters a love-hate relationship with our equipment. A functioning machine enhances productivity and entertains. Non-functioning, it can become maddeningly perverse. New equipment or complex programs usually have to be thrashed into shape and require a period of adjustment and learning, spanning days or even weeks.

A Number of Changes

And so it was with *SuperCharger*. Mr. Creighton's version, as he noted in his article, was due for a number of changes in both the hardware and documentation. These were incorporated in the package which I obtained from the House of Toad in late December. Thus, it was far easier to connect and initialize the equipment and get the program up and running. Of course, "Easier" is one of those weasel-words used by advertisers to con the unwary. Never confuse "easier" with "easy!"

The instruction book is the most notable departure from the material of the original review. Spiral bound and arranged in logical sequence, it anticipates and answers most, but not all, of the user's questions. With a few additions, it would be about perfect. Perhaps these might be included in the next version of README file.

Repeat after me: Assume nothing; Assume nothing; Assume Not...

The first roadblock turned out to be a user error. After physically installing the *SuperCharger* hardware according to the diagram, it proved impossible to back up the three system disks. Messages abounded; "You may have damaged data..." and "Drive B does not respond..." and "The disk formats do not match." Ultimately, a successful duplication was completed only after disconnecting *SuperCharger*, the hard drive, rebooting from ROM and using the original Atari format and copy system. Talk about Back to Basics! As it turned out, the problem was *SuperCharger* itself. If it is in the circuit at all, it MUST be turned on. Otherwise, it "drags down" the data going to the hard drive. Although this point is nowhere addressed in the text, the connection of the hardware does not occur until after the duplications are made.

Once the duplication of the original disks was accomplished, followed by the connection of *SuperCharger*, it was possible to complete the installation by following a nicely explained and diagrammed sequence. Not wishing to play the fool and rush into things, I followed Mr. Creighton's lead and made the original setup with the hard drive disconnected and was shortly rewarded with the flashing "A>—" prompt indicating a successful MS-DOS boot. Program loads, directories, formats and the like all functioned, albeit slowly and in a somewhat gloomy white text on black environment.

The Hard Disk Becomes Involved

Of course, the full benefit of *SuperCharger* cannot be realized until it and associated programs are run from a hard drive. Here, too, the instruction book is clear, logical and almost perfect. Despite all at-

tempts to run the installation program as directed, it simply would not work. Reformatting the utility disks and recopying the originals didn't help. Nor did disconnecting *SuperCharger*. A call to Rio Computers in Las Vegas brought David online to suggest running the INSTALL program from the hard disk rather than drive A. Moved over to sector C, it performed flawlessly. Now, upon bootup, the program initialized, loaded MS-DOS and was ready to go in a matter of seconds.

The only flaw remaining was an inability to activate the LAUNCHER function. Mentioned only briefly in the docs, LAUNCHER was supposed to allow running MS-DOS programs from TOS. Well, it didn't but what the heck, I had my choice of three DOS shell programs including XTREE, Gold, and Windows. Who needed a launcher, anyhow?

Could 10,000,000 Masochists Possibly Be Wrong?

By now, over a week had passed since I purchased *SuperCharger* but I really felt I was getting it tamed at last. I had seen XTREE used and it seemed to be a straightforward system. Programs are displayed on the screen, highlighted and run. What, besides the GEM desktop, could be simpler? What, indeed! For openers, I suggest a degree in electrical engineering, becoming a GO master or perhaps a world-class decathlon medalist. Forget XTREE! How about Windows which mimics the GEM environment? For one thing, it eats up about 600K of memory and to install a program requires two pages of data entry. Name, Pathway, type, keyboard type and bytes, etc. and on and on; all must be truthfully answered or it simply won't work. No wonder IBM users are such studious, humorless types. Forget DOS shells. How about running direct via MS-DOS. Look at it this way: if MS-DOS were that simple, would anyone go to the trouble of designing Windows?

No More Mickey Mouse!

By this time two weeks had passed and I had yet to install and run a serious, useful application in MS-DOS. It was possible to load and run a program but by the time all the Mickey Mouse was done, it was really easier and quite tempting to simply boot an Atari equivalent from TOS and be done with it. Fortunately, the idea of the LAUNCHER kept nagging at the back of my mind. To run a MS-DOS program directly from TOS! If this were possible, all the shells, windows and especially MS-DOS could be avoided. But, despite repeated readings and attempts, LAUNCHER stubbornly refused to perform.

A last call to David offered little encouragement. The best he could suggest was that I try reduplicating the working disks and reinstalling the whole affair one more time. But then, after clearing up a couple of other matters he mentioned, in a sort of offhand way, that "Oh, by the way, we have found that LAUNCHER won't run from Neodesk." Naturally, I was running Neodesk!

Fanfare, Please, with Trumpets Rampant!

And so it was that two weeks and a day after purchasing *SuperCharger* I could do the following:

After a normal boot, clicking on the drop-down accessory *SuperCharger* starts the conversion to MS-DOS. In about three seconds initialization is complete and the C:\>- prompt appears.

I pop back to the GEM desktop by pressing SHIFT-CONTROL-BACKSPACE, leaving MS-DOS running in the background. The change appears instantaneously.

From the GEM desktop, I open the hard drive sector containing MS-DOS programs. Double click on the equivalent of .PRG and BOP! we're into MS-DOS; ZIP! launcher is starting the load and POP! the opening screen is displayed and the program ready to run!

The speed at which this occurs may not be the same internally as the 16 or 25 MHz rate of a 68020 or -030 based machine, but it certainly isn't much slower in terms of loading and displaying the opening screen! Part of this may be due to faster disk access or more efficient processing along the line. I do know that a couple of hard core computer engineering types left the scene arguing about "How they manage to do that?"

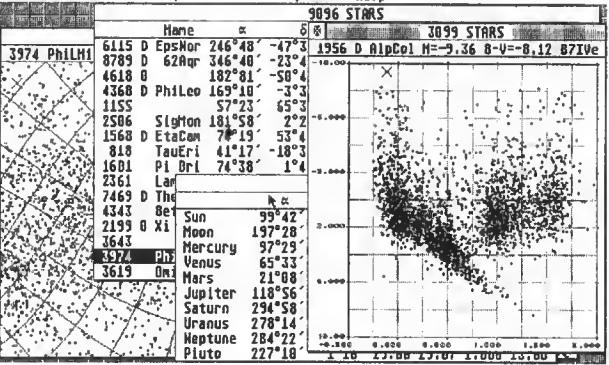
One warning to potential buyers. Your graphics will not be nearly as colorful or detailed with MS-DOS as with Atari. Unless you have a Multisync monitor, you are stuck in CGA mode; the one which gave IBM its original reputation for poor graphics.

What does *SuperCharger* offer the Atari user? It opens a door

onto another, larger world. The number of programs available for MS-DOS is far greater than for the Atari. Also, since not all of us are fortunate enough to have an ST at work as well as at home, many would welcome the opportunity to port programs and data between locations. If there is MS-DOS in your future, the best way to get there might well be via *SuperCharger*.

SuperCharger is the product of Condor Trading Ltd./ Beta Systems Computer AG of Germany and is marketed and supported in the U.S. by Rio Computers, Telephone 800-782-9110. My *SuperCharger* was purchased from Toad Computers of Severna Park, MD for \$468.

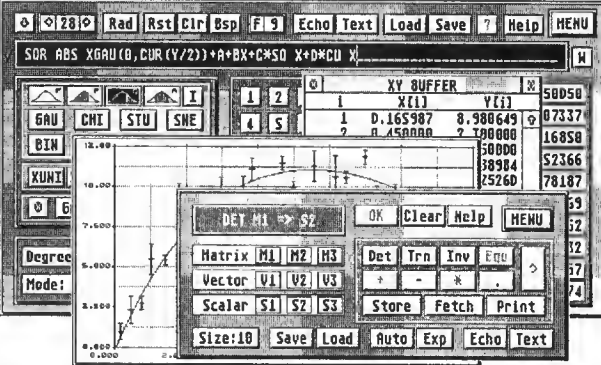
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CADAVER

Daunting Danger For A Daring Dwarf

By Joe Sapienza



Prelude

Fantasy Role Play Games (RPGs) are among my favorite programs to sit down with on my ST. When I first bought my 1040, I also purchased several arcade games that kept me up for hours and hours! It was great - graphics and action that you'd die for (and quite often "literally" did!), and multiple screens to wade through. I was happy, until... (baritone Serial Television Program Voice booms loudly, with vibrato)...Dungeon Master arrived!! (echo, echo, echo) Boy, was I hooked! It didn't take long to realize that Truth, Justice, and the Fantasy Way had a new Champion. Since then, I have greedily sought for, and been absorbed by, games of the RPG nature. Enter *Cadaver*, a fantasy adventure programmed by the Bitmap Brothers, and produced by Image Works in Europe.

Good Old Fashioned Greed

Programmers have created, and adventurers have traveled vast and varied worlds; from the everyday to exotic, near to far, past, present, and future. The scenario takes our alter-ego(s) on some GOOD DEED, usually designed to save a princess, kingdom, world, or universe. Occasionally, the quest is undertaken for fame and glory. Obscurely, the one and only goal is RICHES! Gold, precious gems, treasures untold - fortune is the name of these games. Enter, Karadoc, your greedy adventurer and his travels (if you dare) through Castle Wulf.

The Catch

Yeah, there always is one, isn't there! Karadoc soon realizes that he's into far more than he bargained for. There is a morbid and treacherous history to the castle - of half-brother's battles for the right to kingship, and an evil influence by the necromancer, Dianos. Needless to say, mere mortals were used and killed, and in the end, the undead magic of Dianos destroyed all. After all these years, the monsters and minions of Dianos survive, and the innumerable puzzles and traps laid for the unwary still exist. Karadoc must evade or survive all battles with the castle's creatures, solve the aforementioned mysteries, and if you're lucky (allow me to emphasize IF), defeat Dianos and escape the castle with more wealth than a dwarf could possibly spend in TWO lifetimes! Sure it's a catch, but if you're like me, one you're just dying to

tackle. (Again the Baritone Voice)... With joystick in hand, prepare to conquer Castle Wulf!

Castle, Sweet Castle

Cadaver is an isometric 3D adventure, with several hundred rooms spread over five levels. The size and appearance of each room is varied, with excellent graphics and attention to detail. The 3D view might take you a moment to adjust to, but in no time at all, you will be engrossed in a game of depth and enjoyment. Your color monitor is divided into three areas--the largest portion is the play area, with the leftmost bottom corner used for the interactive icons, and the rightmost bottom corner for play information. Room construction and backgrounds are based according to the level Karadoc is presently exploring; rock, mud, and dungeon on level one, wood and steel on levels two and three, fine brickwork and wall panels on level four, and stone and mortar on level five--the castle parapet. Digitized sound effects are incorporated into the game play to further enhance the atmosphere; doors opening, keys turning, spells firing, and footsteps--not extensive, but just right.

Iconically Speaking

Karadoc's actions are maneuvered via joystick movement, with Up, Down, Right, and Left corresponding to Compass points. Diagonals are also allowed, and move Karadoc accordingly. However, interaction in this world, other than movement, is accomplished via icons located in the lower left of your screen. As Karadoc encounters the various scrolls, potions, doors, levers, buttons, and puzzles, a group of icons become available to cycle through, which mandate a particular action you'd like your alter-ego to perform (NO typing, NO parser). It is up to you to make the decision about exactly which icon to select; part of the puzzle solving involves choosing the correct action icon. Most icons depict the chosen action, such as a closed hand for TAKE, and open one for DROP, eyes on a scroll for READ, a flask near a mouth for DRINK, and a coin entering a slot for INSERT.

The Name Game

The lower right hand portion of your screen contains your health/stamina bar, and several informa-

tional text lines. Every one of the myriad rooms you will explore has a name. This is often times important to figure where to go, or how to solve a puzzle. Likewise, each of the objects you encounter inside the castle, whether it is stationary, moveable, or obtainable has a name or description which serves similar functions. Lastly, there is a indicator which ticks off the days that go by; after a certain time lapse occurs, another day "passes," but this does not affect the game play (it may influence your overall rating and score).

Pack It Up!

Before setting out on this journey, Karadoc, being the experienced dwarf that he is, equipped himself with a diary to keep tabs on his progress, and a rucksack to keep it and the various other things he finds along the way. The diary keeps track of your health/stamina (the previously mentioned indicator is of the "energy bar" variety, while the diary shows actual points remaining out of points possible), the amount of gold and experience you've accrued, the level you're on, and a "percentage complete" indicator of the level you presently explore. It is always wise to check this indicator before advancing to the next level, as it is possible to go on without doing everything possible on any one level. The rucksack is capable of holding 32 items but it IS POSSIBLE to increase this later in the game, IF, by any good fortune, a certain magical device is found.

Magic, You Say?

Dwarves do not inherently possess magical abilities, and tend to get by relying on ax and sword play. Nevertheless, they are able to wield magical articles. Luckily for Karadoc (and you), many such scrolls, potions, wands, and orbs are about, waiting to be found. Whether tucked away in chests and caskets, in the open, or craftily hidden, you won't travel far without these magical aids. Magic Missile wands, Read Language scrolls, Disarm Trap runes, Open Door spells, and Stamina potions are among the many you'll find. If you READ any of the magical items you find, you will be told what it is, its strength, and the number of "shots" available. Just for fun (I'm sure), some items are not marked and experimentation is your only avenue!

To Map, Or Not To Map

For that, there is no question! The program comes with an auto-mapping feature that you can call up by pressing F1. Rooms and their doorways are drawn on to the map as you enter them. Accessing the map highlights the room you presently occupy, as well as the total number of rooms entered. Using the joystick and the cursor keys allows you to zoom in, out, and

around the map. A great feature, and (again) helpful at times to solve certain puzzles. There is even a Map spell that will draw the entirety of the level you're on for one glimpse.

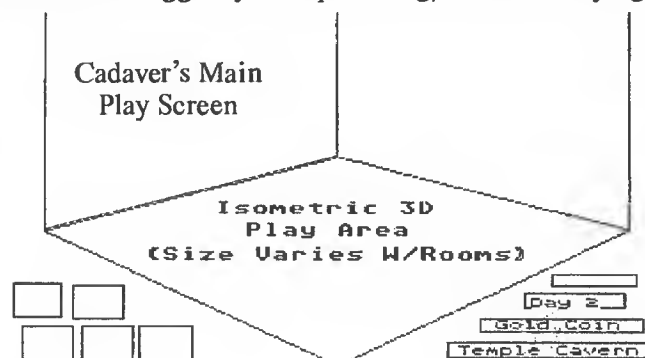
An Interesting Puzzle

The adventure of exploring the plethora of rooms on each level and the confrontations with the many creatures that roam it are only half of the joy of this game. Finding obvious or hidden keyholes, levers, buttons, or panels, and solving the puzzles and problems thereby offered comprise the other half. The Bitmap Brothers have created a game that challenges, yet encourages. Puzzles start at a simple level and increase in complexity and thought, with some solutions building off previous examples. I've smiled at the easy, grinned at the harder (that I was able to work out), screamed at some I had to walk away from, and later broke my arm patting myself on the back when those were solved. I admit to getting (and giving) help on GENie. A friendly hint when stumped - try everything in your inventory on everything you can, as sometimes the obscure becomes the obvious (after the fact).

The Gods Offering

Games can be saved and loaded at any time during the play by pressing the S or L key, respectively. The program itself will format a special Game Save Disk able to hold ten individual saves, numbered 0 through 9, from which to pick. *Cadaver* employs an interesting game save facility; in order to create a save at a desired place, the "Gods" demand that you offer a certain amount of your acquired gold to accomplish this. As your experience grows and your travels progress, the amount "They" require to save increases. This drives you to locate more gold (the reason you're there anyway!) and to moderate the times you create saves. I kept an individual Game Save Disk for each level. Loading a save, thank God(s), is free!

There is much more to this game than the overview here. Telling all would take up the whole magazine, but more importantly, ruin the great fun of this great game. Judging by the comments on this game in its section on GENie, I'm not the only one who would suggest you stop reading, and start buying!



Presenting the Blue Angels!

**WARNING: These stunts are flown by professional pilots.
DO NOT attempt them in your family aircraft.**

Review by Sam Van Wyck

Of the many flight simulations available to the computer user, most appear to emphasize tactical combat situations. At the completion of the instructional period, which may be extremely complex and lengthy, the player goes forth to do battle with some form of enemy. The more one kills, the greater the reward.

Blue Angels from Accolade is refreshingly different. Here the idea is survival; one's own as well as that of the others who share the friendly skies. As a member of the famous Naval aerobatic squadron, the player is taught basic flight maneuvers in a solo F/A-18 Hornet. After gaining the necessary skills, the maneuvers may be repeated in the company of the five other aircraft in the flight. The final exam, so to speak, is participation in an airshow comprising many solo and group maneuvers. Evaluation of a candidate's performance is continual, and successful completion of training may be rewarded by inclusion on an honor roll.

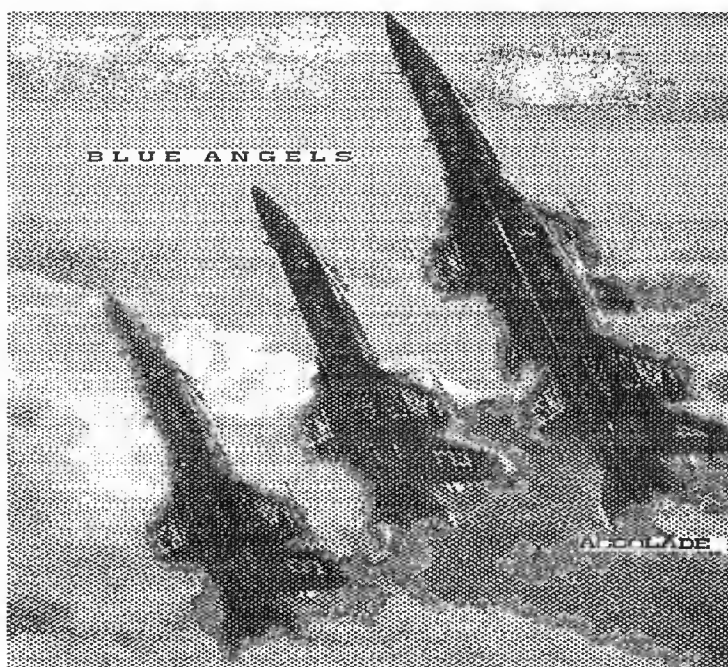
Load And Go

Bootup is from (what appears to be) a copy protected disk and access to the program depends upon a keyword lookup from a complex three-wheel code disk. Instructions are included for hard disk installation. *Blue Angels* has one of the friendliest menu systems imaginable. Not only are the choices logically chosen and presented but it is possible to get just about anywhere from anywhere else. One never becomes dead-ended in a menu string with no option other than to proceed in an unwanted direction.

Perhaps the most logical beginning would be to watch an airshow as a spectator, and this is one of the initial options. Viewing may be from the ground, as a passenger in one of the F/A-18's, or from a chase plane

astern. Depending upon the mode selected, graphics at this point range from poor to impossible.

High detail mode, showing the airport in color with lots of ground scenery is useless as it proceeds from scene to scene in great jerks. Setting the landscape to "Horizon Only" with low aircraft detail speeds things up considerably but never results in a smooth display. Unfortunately, these limitations seriously diminish the utility of this phase of the program.



Start in the Simulator

Although successful completion of an airshow will involve many hours of practice, the individual maneuvers are presented one at a time in the safety of a simulator. Here, even the worst goof is one you can walk away from.

Simulation begins with the choice of maneuver. These are in three basic categories:

Take Off, Delta (maneuvers performed with the other aircraft as a group) and Solo. As each one is chosen, its track appears in a cube next to the menu. The cube, representing the airspace in which the maneuver takes place, can be enlarged and rotated. One nice thing about simulators (though not necessarily simulator operators) is that they are patient. Each maneuver may be viewed repeatedly until it is understood.

The next step is to activate the cockpit view. Several display options are available with the default being a Help panel and an Evaluator. The Help panel tells what control inputs are needed at a given moment while the Evaluator displays deviation from the ideal track. Controls are minimal, consisting of a compass, elapsed time clock and artificial horizon.

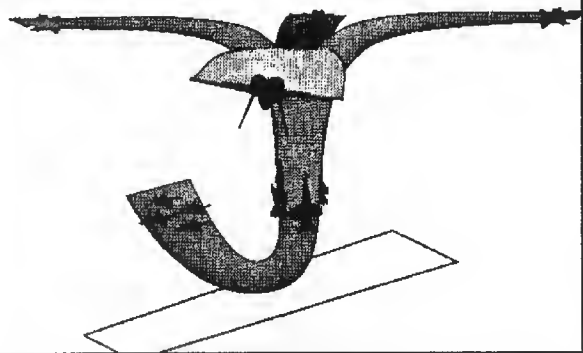
Three flight modes are available from the Simulator menu. AUTOPILOT allows the student to sit in the cockpit and view the entire process as a spectator.

When the student is ready to try actually controlling the aircraft, either STOP TIME or REAL TIME modes are available. STOP TIME pauses the action whenever a control input is needed, while the Help panel defines this action in terms of control movement. The simulation does not proceed until the correct action is taken. As the student progresses, it becomes possible to run an entire sequence without a single halt. The Evaluator panel displays the amount

Delta

These maneuvers are performed by the Blue Angels in formations of four or six planes.

Diamond Vertical Break



and direction of error in real time during the maneuver.

Following each attempt, an evaluation screen appears. Here, the ideal track is shown in the 3-D cube alongside the actual track flown. Maximum deviation is shown along with average error. Using the STOP TIME mode, it is difficult to generate more than about a 10% average error.

First You Get Out of Chicken Mode

REAL TIME mode lets the student fly the maneuver with no breaks. The Help display remains active, but failure to respond correctly does not stop the show. Naturally, correction is possible but if a deviation becomes extreme, past the point where recovery is possible, the simulation halts, advises the pilot to "Take a break" and then try again. Restarting a practice run or viewing it again in debrief mode is simple and quick. The mechanics of running the program do not distract from the training mission.

In the simulator, the forward view is enhanced by a series of rectangles that appear ahead of the airplane. These mark the track in the sky required by the maneuver. If the pilot manages to fly through all of these while maintaining the proper speed, the effort is then awarded a passing grade.

Even with the help mode in Real Time, it is possible to choose either Half- or Quarter-speed flight. These would be a great aid to learning the more complex maneuvers except for the fact that they actually

slow the simulation to something less than one-tenth real time. Unfortunately, this is such a languid pace that outside distractions begin to creep in.

Getting Ready For The Big Time

By the time the aspiring Angel has learned all the maneuvers, after what feels like three to six months of intense effort, it is time to try an airshow. This is still best done in the simulator, however, since one maneuver will now follow another in strict order. Where before, the aircraft was automatically in the proper position to begin the entry, in the airshow, the pilot has to transition correctly between maneuvers and remember what comes next!

Here is a list of the maneuvers required for just one of three possible airshows:

As a group of four in the "Diamond" configuration you will perform the Diamond Takeoff, Diamond Loop, Diamond Roll, Diamond Double Farvel, Tuck Under Break, Left Echelon Roll and the Fan Break.

In the "High" airshow, a number of these maneuvers are repeated but with all six craft in the "Delta" formation. Just for fun, the Fleur-de-Lis, Delta Loop and Delta Six Plane Cross are added!

Those choosing to fly the solo positions must also master the Split S, Dirty Roll, Knife edge (a particularly spectacular manifestation of suicidal insanity in which two planes hurl themselves directly at each other rotating 90 degrees to pass canopy-to-canopy a few feet apart directly in front of the audience), Opposing Horizontal Roll, Fortus, Solo Tuck Away Cross, Opposing Minimum Radius Turn, Afterburner Turn and 4-Point Hesitation Roll.

All must be capable of landing as well. (Seriously, that is listed as a maneuver--with good reason! F/A-18's are expensive).

It was at this point that your reviewer and the program agreed to part company. Regardless of the number of repetitions, and despite having the Help panel for advice, it was impossible to complete more than one or two tasks without a wingman calling "BREAK!" and the simulation shifting to the Expert Pilot Screen from which his name remained conspicuously absent.

Back in the Ready Room with a Cup of Coffee

Control of the aircraft is either by joystick or keyboard. Since several functions are keyboard-only, doing everything at that position is probably the easiest mode to learn. *Blue Angels* is described as a "formation flight simulator." Unlike trainers specializing in authentic cockpit reproduction of an advanced jet aircraft, the emphasis here is on the maneuvers rather than the minutiae of keeping a complex machine in flight.

While the spectator view graphics are substandard, important functions such as cockpit and simulator are more than adequately detailed. Sound consists of a constant hissing which serves to mask intrusive local sounds which might distract the pilot.

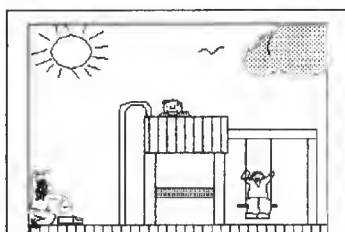
The instruction book is well written, logically sequenced and nicely embellished with graphics. A loose card is included to detail the joystick and keypress functions and may be conveniently propped in front of the operator.

Blue Angels represents a lot of work and imagination on the part of the authors. Many of the concepts, such as the track display inside a rotatable, expandable cube of space, are innovative and helpful. For anyone willing to put in the necessary time and effort, it would prove a most rewarding simulation. However, a warning is also in order. For the "free spirit" who would rather just go out there and blow everything to hell in single combat, joining the *Blue Angels* team could be terribly frustrating. *Blue Angels* is the product of Accolade Software and was recently seen advertised at a mailorder price of \$29.00.

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Page 1

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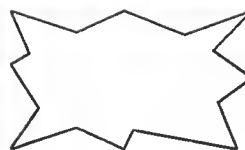
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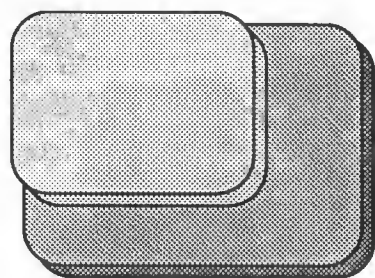
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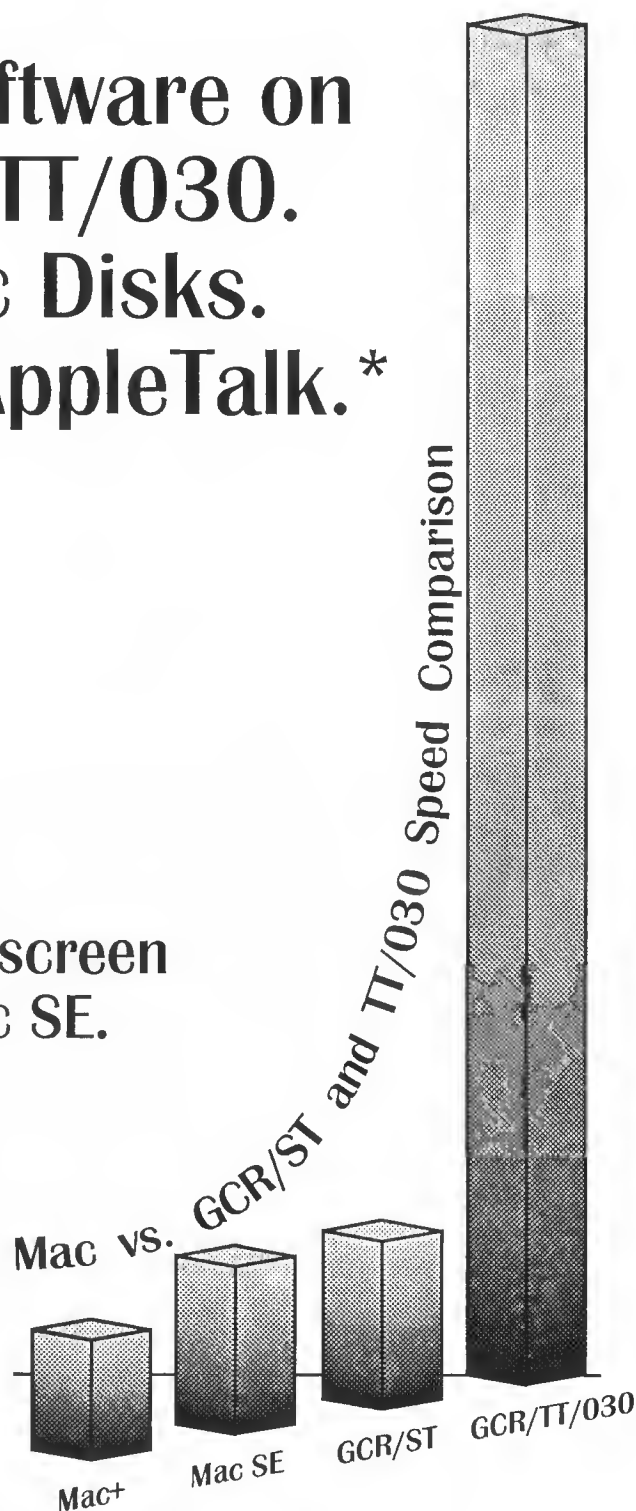


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Atari Fest Time!

(Send your 'fest info into CN and we will advertise it here!)

June 2: The Milwaukee Atarifest

Sponsored by M.A.S.T., this fest is scheduled from 1 to 6 on Sunday afternoon in the Bowlero Red Carpet Lanes, 11737 W. Burleigh St in Wauwatosa, Wisconsin. The show will feature product demonstrations, giveaways and items for sale or trade among dozens of exhibitor tables. For more information, call (414) 463-9662.

June 15-16: The Pacific Northwest Atari Festival

It's been nearly 3 years since Seattle hosted the amazingly successful AtariTrek '88. It's been nearly 3 years since the Atari users in the area have celebrated the one thing they all have in common. And it's been nearly 3 years since Atari developers and vendors have converged to the area to introduce their products to some of the most enthusiastic Atari fanatics on the planet. On June 15th and 16th of 1991, we cordially invite you to take part in a long-overdue event: The Pacific

Northwest Atari Festival in beautiful Vancouver, British Columbia, Canada.

For further information regarding the Pacific Northwest Atari Festival, call Terry Schreiber (604) 275-7944.

June 29-30: Great Lakes Atari Computer Users Conference '91 by Earl Hill

The Great Lakes Atari Computer Users Conference will be held on Saturday June 29th and Sunday June 30th at the Mercyhurst College Campus Center in Erie, PA. This event is being hosted by the Spectrum Atari Group of Erie (SAGE) and the Westmoreland Atari Computer Organization (WACO).

SAGE and WACO both consist of loyal and enthusiastic users of all types of Atari computers. Both groups were formed in the early 1980's and continue to support both the 8-Bit and ST/Mega/TT machines with extensive public domain disk libraries, monthly meetings, and regular SIGs. They have also had booths at all of the Atari computer

shows in Buffalo, Detroit, Pittsburgh and Toronto since 1985. In addition, SAGE members have been instrumental in organizing the very successful NUAGE Computer Fairs which have been held in Erie for the past three years.

With this experience, and seeing a continuing need to support Atari computer users, SAGE and WACO members decided to proceed with an Atari-specific event in 1991. Erie is located in the northwest corner of Pennsylvania on the shores of Lake Erie. It is within easy driving distance of major cities including Cleveland, Buffalo, Rochester, Detroit, Pittsburgh and Toronto, and offers a unique location for an Atari enthusiasts' get together.

The concept of the conference is a place where user groups, retailers, and developers with similar interests can get together on an informal basis. Representatives of Atari Corporation will be at the conference, along with numerous vendors and user groups. It will be held at the Mercyhurst College Campus Center which is conveniently located at 501 E. 38th Street in Erie. The conference will be held in a new 10,000 sq. ft. exhibition area at the college with am-

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ple parking. Mercyhurst College is easily reached by taking Exit 7 off Interstate 90 if coming from the West, and Exit 8 if coming from the East. Most major national chain motels and restaurants are located at Exits 6, 7 and 8 within 3 miles of the college.

Discount air fares are available for attendees flying into Erie International Airport for the conference. The official host airline for the conference, USAir, is offering 35% off round trip coach airfares and 5% additional savings on SuperSaver and other discount fares. Round trip fares from California to Erie are as low as \$318! To take advantage of these discounts call USAir at 800-334-8644 (800-428-4322 Ext. 7702 from Canada) and reference Gold File 13190000 or the Great Lakes Atari Computer Users Conference.

Conference times are 10AM-6PM on Saturday and 10AM-5PM on Sunday. Tickets are \$3 at the door. Advance tickets are available by mail or through participating user groups at the discount price of \$2. Children under 12 will be admitted free of charge when accompanied by an adult.

Door prize drawings and technical seminars will be held throughout both days. The seminars will feature MIDI, Desktop Publishing, programming and hardware modifications. Featured speakers will include Eric Smith of the University of Western Ontario who will give a presentation on MinT, his multi-tasking overlay for TOS. Additional speakers on technical topics or commercial products for Atari computers are still welcome.

For advance tickets, more information or to reserve exhibit space, write to: Great Lakes Atari Computer Users Conference, P.O. Box 10562, Erie, PA 16514-0562. Conference co-ordinators are: Vendor Contact - Patty Marshall, President WACO, 412-225-8637. User Group/Seminar Contact - Dennis McGuire, President SAGE, 814-833-4724.

July 20: 2nd Annual Blue Ridge Atari Fest

This event will take place at the Westgate Shopping Center in Asheville, NC. Computer Studio has made arrangements for show space at the shopping center, and Blue Ridge

ACE will be providing tables and display space as needed by exhibitors at no charge.

Asheville is located in the heart of the Blue Ridge mountains, of the main vacation capitals in the east, and centrally located for easy accessibility for Atari users in most southeastern states. Last year's first show drew Atarians from user groups in North Carolina, South Carolina, Georgia, and Tennessee to share ideas, socialize and meet with our main guest, Bob Brodie. This year's show will be larger in scope and we're anticipating a much larger turn out as well. For more information, contact Clifford Allen, c/o Computer Studio, Westgate Shopping Center, Asheville, NC 28806.

July 27: The BLAST Atari Show

A one day Atari show is planned by the BLAST User Group of Indianapolis, Indiana from 10 am to 5 pm at the Cadre, Inc. Engineering Firm meeting hall at 6385 Castle Place Dr in Indianapolis. For more information, call (812) 336-8103.



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496 Calamus 1.09 demo (1DM)	860 Go Up: Lode Runner clone (M)	803 Cheetah super fast file copier 3.0
873 Calamus hints & tutorials/utilities	138 Grand Prix 2.1 car racing (C)	874 Color monitor emulator for mono NEW!
963 Nude Women IMG Clip Art	1069 Hac Man 2: best Pac Man! (1CD) NEW!	1077 Double Click PD utils: must have NEW!
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820 Algebra I & Verbal-Linear Problems	133 Nude strategy games (C)	889 NeoDesk Utilities, very useful
819 Basic Math Skills	124 Risk/Tetris clones (M)	804 Pinhead 1.8/LG file selector 1.8B
64 Human Anatomy Tutor (C)	1070 Scrabble board game clone (D) NEW!	673 ST Writer Elite 3.8 w/ Spell Checker 2.8
1100 Math Circus (C) NEW!	1000 Skate Tride: best PD game! (CJ)	883/870 Sheet 3.2p spreadsheet w/ docs
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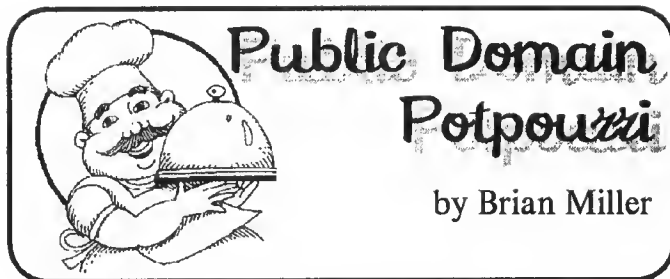
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Last month I encouraged fellow Atarians to send me examples of Public Domain and Shareware software worthy of attention in this column. For any of you kind enough to take me to task on that invitation, don't be disgruntled that I have not referenced that software in this month's column.

The columnists for *Current Notes* must prepare their articles well in advance of each issue. As of this writing, I have not seen my last article in print. Be assured that I will make every effort to publicize submissions to this column as quickly as I possibly can.

Superboot Revisited

by Gordon W. Moore

(V6.0, CN #414; V7.0, CN #551)

In the March 1990 issue of *Current Notes* I reviewed an earlier version of *Superboot*. I called it "One Super Program." While I will not attempt to review it again, let me say that *Superboot* gives you a great deal of flexibility in setting up your ST at boot-up time. *Superboot* lets you choose specific accessory programs, programs that run from your auto folder, and other files which can be selected when you start your ST. Each configuration can be named and assigned to separate function keys. *Superboot* also lets you display pictures in a variety of formats as startup screens.

If you are running lean in RAM memory, you can set up *Superboot* so that it won't load accessories or other programs. In contrast, if you want to make sure that particular accessory programs load, you can, just as easily, set up other configurations for that purpose. You have a wide range of choices, since you can assign all the available function keys and a variety of key combinations to different set ups.

As much as I enjoyed *Superboot*, I stopped using it when I was asked to review *NeoDesk* for another magazine. At the time, I was not aware the two programs could happily co-exist together.

Version 6.0 of *Superboot* allows you to run GEM programs with StartGem. It also works with the newer versions of TOS. I can set up *Superboot* to automatically launch *NeoDesk* after bootup. I can now enjoy the advantages of selecting a wide variety of bootup configurations, while continuing to enjoy *NeoDesk*.

The *Superboot* package includes a conversion program for anyone who may be currently using an earlier version of the program. Version 6.0 allows you to hide programs. Those programs which you may need to run each time at boot up can be hidden, and will not appear in the configuration screen.

Superboot is a program well designed from the start, and it just keeps getting better. I have glossed over many of the enhancements made in Version 6.0, and as of this writing, *Superboot Version 7.0* (CN #551D) has been released. It supports digitized sounds.

Before moving on, I would like to share a question posed by a *Superboot* fan. I do not have an answer, but hope that one of you can resolve the problem. The reader, referring to the picture that accompanied my March 1990 review, says:

"I counted 12 entries under Other Files, while the screen provides for only 8."

The reader would like to be able to increase the number of other files in his *Superboot* setup. Can anyone help?

Are You Ready to Be Converted!

RFT to WordWriter and Back Again

Last month I discussed a vital role shareware plays by filling specialized niches. Commercial software must generally appeal to a broad audience to be profitable. If one has a need that is out of the mainstream, he may need to write a program to satisfy that need, or find a shareware programmer who has done the work for him. I believe I have found a pair of public domain programs that fit this definition, and I have submitted them to the Current Notes Library. With pleasure, I present:

WWTORFT.PRG and DCATOWW.PRG

by Mike Saeger

514 Orchard Terrace, Roselle, IL 60172

The author has created two utility programs, written in HOSOFT basic. The first, WWTORFT.PRG converts *WordWriter* documents to the RFT file format. RFT stands for "Rich Formatted Text." It is a common interchange format supported by many DOS word processing programs, including *Display Write*, *Professional Write*, *Word Perfect*, and *Microsoft Word*.

This program enables you to prepare a document with *WordWriter*, complete with bolding, underlining, subscript and other formatting characteristics, and save the file as an RFT file. The program automatically assigns an RFT extension to help you differentiate the converted document from the original. The converted RFT file can now be read by many DOS word processing programs with all the formatting characteristics preserved.

DCATOWW.PRG performs the equivalent operation in reverse. You can use a DOS word processor;

convert the file on your ST using the program, and then read it with *WordWriter*. All the formatting characteristics remain intact.

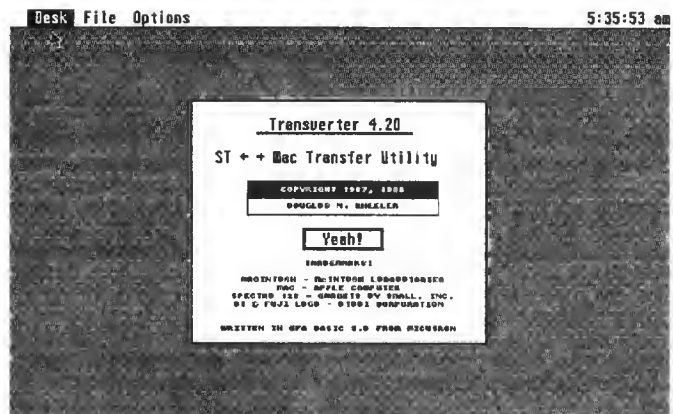
A few years ago, we may have been satisfied that documents could be transported between word processors or computers as ASCII text files. Until fairly recently, most DOS word processors were stodgy at best, in the manner they let you spruce up letters and other correspondence with bolding, italicizing and other formatting options. Now it may be just as easy to apply these changes in either the DOS or ST realm.

More and more DOS users have come to realize that the mouse can represent more than just a furry little rodent, and that WYSIWYG, pronounced "WIZ-ZEE-WIG," (What You See Is What You Get), is a meaningful acronym, and not just alphabet soup. In fact, most of us now take WYSIWYG for granted, regardless of our computer of choice. We have come to expect that we will see bolding, underlining and other text enhancements on our computer screen, just as they will be printed on paper.

I am impressed by the flexibility these two utilities permit, since I can easily begin work at either home or the office, and can finish up in the alternate location, applying text formats as I go. One limitation of the RFT file format is that it does not support exchange of graphics. That should not be a major issue, since neither does *WordWriter*. I am delighted that, thanks to Mr. Saeger, I can finally use an ST word processor; be able to underline, bold, and even spell check to my heart's content, and then carry my precious diskette to work to "boldly go where few ST users have gone before."

While it may not be my place to criticize, I wish more of the ST's commercial word processing packages incorporated the option to convert files to different formats. In fairness, I have not had the opportunity to try *Word Up 3.0* or the newest version of *Word Flair*, but the earlier versions of these two otherwise appealing programs only saved or read files in their proprietary file formats or as ASCII files. In contrast, *Microsoft's Word for Windows* and *Word for Mac* automatically interpret a variety of file formats.

The difficulty I have experienced in converting documents to alternate file formats is perhaps the biggest reason that I have not used ST word processing programs as often as I would like. Ninety percent of the computer time I put in at home is for work anyway. I have found it easier to use the Mac flavor of *Microsoft Word*, with the aid of my trusty Magic Sac. *Word for Mac* is equipped to save files in a variety of formats, so I can have my choice in using the office Macintosh or our DOS computers to continue work.



Transverter 4.20
by Douglas N. Wheeler

BinHex 5.0 (Magic No. 2)
by Yves Lempereur,
28611B Canwood St., Aquoea Hills, CA 91301

My editorial comments provide an inadvertent segue for me to briefly mention two other utilities that I have found indispensable. *Transverter 4.20* converts files between ST and Magic disk formats. For example, I am using *Word for Mac* now to write this column. Once done, I can use the *Transverter* program to move the file to an ST-formatted disk. For this column, I save the article as an ASCII file. However, if I were preparing this document for work, I could as easily Transvert the file as a DOS or Mac Word file.

Our office Mac is equipped with a "Dayna File," essentially a klunky 5 1/4" disk drive that lets the Mac read DOS formatted disks. If I were to save my work as a DOS *Word* file, *Word for Mac* could interpret the file as a *Word for DOS* document. It could be subsequently saved as a regular Mac file.

If I wanted to pull out all the stops, I could also Transvert a document saved as a Mac *Word* file. With the help of a simple Macintosh utility named *BinHex 5.0*, available in the Current Notes Library, I could convert the document to a format readable by the Dayna File and other DOS disk drives. Once copied to the Mac, I could use the *BinHex 5.0* program again to reinterpret it as a Mac file.

Transverter and *BinHex 5.0* have let me exchange a variety of documents, graphics, and programs between home and work. With the newer Macs or the competent SPECTRE cartridge these exchanges may be possible with even less effort.

I have preached to you long enough about salvation through conversion. So I will bid you peace until next time. In closing, let me remind you to send examples of shareware software, or your comments to: Brian Miller, 13848 Delaney Road, Woodbridge, VA 22193.

1990

2nd Annual CPU Awards

14 PD/Shareware Programs Receive Top Honors

**1st
Place***by Stan Swanson*

[The following is a reprint from ST Connection, January 1991. ST Connection is a monthly newsletter covering public domain and shareware products for the Atari ST/MEGA computers. This is the second year in which ST Connection's panel of experts have surveyed the PD/Shareware world to help you select the "best" programs. For ordering info, see their ad in this issue of CN. -JW]

The CPU Awards is one of our proudest accomplishments. They not only give us the opportunity to present these one-of-a-kind awards, but also honor those public domain and shareware programmers who seldom receive the honor and recognition they deserve.

The 2nd Annual Awards were even more interesting than last year's premier awards as hundreds of deserving programs vied for final honors. As our ballots were returned, it was thrilling to watch as first one program, then another took the lead in certain categories while other programs left all competitors (as worthy as they were) in the dust.

So, without further delay, we present The 2nd Annual CPU Awards for Public Domain and Shareware Software!

Best Utility Program

LG Selector, by Charles F. Johnson

Best Utility has been a wide-open contest both this year as well as last. *LG Selector*, a file selector replacement program, took honors in 1990. Also receiving lots of attention were *Desk Manager*, *DC Showit*, *Virus Killer* (1989 Runner-up), *Arc Shell* (last year's winner) and *Cheetah*.

Best Business Personal Application Program

B-Stat, by Wilson

Another new winner this year, *B-Stat* held off some stiff competition to take top honors in this category. This commercial quality program held off *Card File*, *Diary/Edhak* and *Opus*. Interestingly enough, none of the above pro-

grams made the top three in this category last year.

Best Accessory Program

Diary/Edhak, by Craig Harvey

Four accessories received the majority of votes in this category with *Diary/Edhak* coming out on top. (It received an honorable mention last year.) The other three, *DC Stuffer*, *Mystic Formatter* and *Ram Baby* (last year's winner) all received their share of votes.

Best Telecommunications Program

Van Term, by William Van Nest

Van Term is our first repeater in its category and, just like last year, was an overwhelming choice. *Uniterm*, *Hag Term*, and *D-Term* (the new kid on the block) were all in the running for runner-up spot.

Best Game

Guess-A-Sketch

Another repeater from 1989 is this Pictionary-clone which held off stiff challenges from some great entertainment programs including *Pile Up*, *Valgus Squared*, *Computer Sorry*, *Pengo*, *Tetraside*, and *Blockade*.

Best Graphics Program

Pic Switch, by John Brochu

Another repeater, *Pic Switch*, is even more astounding as there have been many new graphics programs appearing since it was written, but it still shines as shown by the support it received in the voting. It was a clear winner over *Art-ST*, *IMG Quickview*, and *Convert to IMG*.

Best Childrens/Educational Program

KV Geography, by Knowledge Vine

Several new programs immediately challenged others in their categories this year. Ken Kressin's *KV Geography* program was one of these as it nudged *Kid Publisher* from its top spot of a year ago. Others receiving support from the panel were *Body Shop*, *Rebus Writer*, and *KV Match*.

Best Programming Language/Utility

Mark Johnson C, by Mark Johnson

Another repeat winner, Mark Johnson C is an excellent shareware package. Competition in this category came from all sides and included *Sozobon C* (1989 Runner-up), *Templemon*, *Diary/Edhak*, *Gulam*, *Adventure Game Toolkit* and *Text Adventure Development System*.

Best Music/Sound Program

Midi Music Player, by Dave Henry

Another newcomer swept by the competition to take top honors in this category. Close on its heels were topnotch programs such as *Uniplay* (last year's winner), *MS Player* (1989 Runner-up), *Smart Play*, *UniversalSound Player*, *Ear Trainer*, and *TLC Sound Machine*.

Most Used Program

Virus Killer, by George Woodside

This category tells a lot about ST pd/shareware software as we really get to see what programs are used by a vast majority of ST enthusiasts. *Virus Killer* proved its overall usefulness with the top honor in this category for 1990. (It received Honorable Mention last

year). *LG Selector*, *Pinhead*, *Desk Manager*, *DC Showit*, *Cheetah* and *Arc Shell* also received solid support.

Best Graphics Game

Realistic Video Poker, by *Micro Creations*

Realistic Video Poker was edged out by *Guess-A-Sketch* last year, but the tables turned this time around as it took top spot, sneaking by *Guess-A-Sketch* for the award. Others receiving consideration were *Blockade*, *Pile Up*, *Computer Sorry*, *Rookie*, and *Lunacy*.

Best Graphics Non-Game

Virus Killer, by *George Woodside*

This year's results were very similar to last year's finalists as *Virus Killer* once again took top honors and *Floormat* took the bride's maid position. *Kid Publisher* and *KV Geography* were right on their heels as well in this extremely close category.

Best New Program

Cheetah, by *Jay Jones*

This category is always interesting as all the newest stuff vies for top spot. 1990 was a great year for new public domain and shareware releases with several of the programs also receiving major consideration for Best Program of All Time. *Cheetah* finally overpowered its competition although programs such as *DC Showit*, *Big Color*, *Megaform*, and *Sticklet* showed the strength of the programs that appeared this year.

Best Program All-Time

Virus Killer, by *George Woodside*

Virus Killer once again held off numerous challengers to be named Best PD/Shareware Program of All-Time. The challenge was very stiff with such banner programs as *LG Selector*, *Cheetah*, *Card File*, *Pinhead*, *DC Showit*, *Arc Shell*, and *Diary/Edhak* receiving great support and interest.

Programmer of the Year

Charles F Johnson

We probably could have penciled this one in ahead of time as once again Charles left everyone else scrambling for runner-up awards. That scramble was an exciting one however, as George Woodside, D.A.Brumleve, John Eidsvoog, Chet Walters, Albert Baggetta, and Darek Mihocka all gathered in their share of the votes.

And now it's time to start watching the new stuff begin to appear for 1991. But before we do that, we'd like to congratulate not only this year's winners, but all of the other pd/shareware programs and programmers as well. And a thank you as well to this year's awards panel who took the time to help us honor these deserving programs!

Final Results: All Categories

Category	Winner	Runner-Up	Honorable Mention
Best Utility Program	LG Selector	Desk Manager	DC Showit
Best Bus./Pers. Application	B-Stat	Card File	Diary/Edhak
Best Accessory	Diary/Edhak	DC Stuffer	Mystic Formatter
Best Telecomm Program	Van Term	UniTerm	HagTerm
Best Graphics Program	PicSwitch	Art-ST	IMG Quickview
Best Childrens Educational	KV Geography	Kid Publisher	Body Shop
Best Game	Guess-A-Sketch	PileUP	Computer Sorry
Best Prog Language/Utility	Mark Johnson C	Sozobon C	Templemon
Best Music/Sound	Midi Music Player	Uniplay	Univ. Sound Player
Most Used Program	Virus Killer	LG Selector	Desk Manager
Best Graphics: Game	Realistic Video Poker	Guess-A-Sketch	Blockade
Best Graphics: Non-Game	Virus Killer	Floormat	KV Geography
Best New Program	Cheetah	Big Color	DC Showit
Best Program All-Time	Virus Killer	Cheetah	LG Selector
Programmer of the Year	Charles F. Johnson	George Woodside	D.A.Brumleve

Current Notes ST Library

July–August 1990

#460D: DYNACADD DEMO—(M) V1.76. CADD package, (no SAVE or EXPORT) comes with font editor program and several utilities. Req 1MB, DS.

#461: CALAMUS OUTLINE ART DEMO—(M) Working demo (no SAVE) to this companion program to Calamus. Req 1MB, DS.

#462: BLOODWYCH DEMO—(C) Fully-playable "Dungeon Master" game.

#463: BLOOD MONEY DEMO and WIPEOUT—(C) BLOOD MONEY, horizontally-scrolling shoot-'em up. WIPEOUT demo, Intergalactic Hoverboard Challenge.

#464: PERSONAL FINANCE—Payroll (V3.0). Cost of Living Adjuster, Checkbook V1.14, and Personal Finance Manager demo.

#465D: MAIL PRO & STOCKS AND BONDS—(M) Mail Pro Demo: filing and mail-merge system, demo ver offers limited entries. Req 1MB. Stocks and Bonds is a based on the fast action stock market game.

#466: 16-VOICE SEQUENCER—features multi-voice recording, split keyboards and/or velocity ranges, simple editing.

#467: MIDI MUSIC MAKER—music player for Music Studio 88, Music Construction Set, EZ-Track and many other formats. **#469: PAGESTREAM FONT EDITOR**—The official font editor from Soft-Logik.

#470: CLIP ART #14—People, in variety of everyday situations—Degas format.

#471: CLIP ART #15—More People in Degas format pics. DSLIDE included.

#472: INSTANT GRAPHICS V2.14—communicate over modem in color, sound, and motion.

#473: INSTANT GRAPHICS UTILITIES—editing and graphics creation utility, in-depth tutorial, and utility to convert MS files to IG format for playing songs over your modem.

#474: MINITERM and MINIBBS—Miniterm is a full-featured desk acc. Minibbs is a full-featured operational BBS.

#475: HYPERSCREEN and STDCAT V4.3—Hyperscreen, implimentation of the Hypertext concept on the ST. STDCAT, disk cataloger program.

#476: ME FIRST—(C) V2.0. Interactive learning games/stories for children. Includes documentation and additional DATA files.

#477: CLASS and EZ-GRADE—CLASS V2.05, combination database and spreadsheet for teachers. EZ-Grade, demo of a commercial gradebook program.

#478: SPACEWARS—(C) Version 1.0, new outer space shoot-'em up game.

#479: HERO IID—DEMO of HERO II gaming system incl Dungeon Construction Set to create and manipulate dungeons for the HERO II game system.

September 1990

#480D: CN ST LIBRARY CATALOG—catalog of the 500+ disks in the CN PD Library.

#481D: CN MACINTOSH COLLECTION—complete text of the Magic Sac/Spectre columns published in CN from 3/87 – 7/90.

#482D: WALLACE NO.1—Cyber Animations: Dr.Who and Who-K9. 6 NEO pics.

#483D: WALLACE NO.2—Cyber Animation: Albatros, plus 6 NEO and 5 P11 pics).

#484D: WALLACE NO.3—Cyber Animations: Mad_Max and Megafugi. Marsch.spc, animate4.prg, and sslide.prg.

#485: ALGEBRA I: Linear Equations—tutorial leading user into correct equation solving techniques.

#486: ALGEBRA I: Verbal Problems—Covers 10 of the most common verbal type problems found in Albebra I textbooks.

#487: BASIC MATH SKILLS: Operations—pick adding, subtracting, multiplying, dividing, or a mixture of all four. Includes two different arcade type learning games.

#488: GIST (Grades, Interims, Student Teams)—grades management program.

#489: DO NOT STAMP UTILITIES—Area Code Locator; Postal.prg, state abbreviations and spellings; SHREDR V1.1, permanently shred data from your disk; HotStat V1.1, analyze ledger files created by HotWire.

#490: THE VIRUS DISK—The Virus Killer, Ver 3.11, detect and eliminate viruses from your disks; Hospital, set of anti-virus utilities; Super Virus Killer; Flu, displays symptoms of viral infections.

#491: WILD FLOWERS—16 stunning pictures of Wisconsin wild flowers in PC1 format.

#492: UTILITY NO.44—FastCopy III! (program and accessory); HyperFormat, format 927K on 83-track DS disk. ARC Ver 6.02, latest version of ARC compression utility, runs roughly twice as fast as earlier Ver 5.21.

#493D: B/STAT—V2.36 of graphing and statistical analysis program. Req 1 MB, DS.

#494: TAIPAN II/GFA SHELL PLUS—Taipan II game, V1.1: early 1800s trade as you engage in combat with enemy ships.(C) GFA Shell Plus: replacement for the GFA Menux program.

October 1990

#495: TESTMASTER.Ver 2.01, (C/M) Set up your own tests to help prepare for exams.

#496D: GUITARIST DEMO. A tool to help guitarists learn chords and scales in all keys and all positions of the fretboard.

#497D: PUBLIC PAINTER V0.1 (Mono) Latest version of this popular paint program from Germany. Inclues English docs.

#498D: EQUINOX SOUNDTRACKER V2.5 Includes 5 songs: tar concert in air, dns, demons soundtrack, rsi rise up, and wild.

#499: STARBLADE DEMO. (C) Space-opera set in the 30th Century in the vastness of the Orion galaxy.

#500: YOLANDA and RICK DANGEROUS. (C) Demos. Yolanda is an arcade/adventure game. Rick Dangerous, explorer,

captured by the Goolu tribe, must escape.

#501: PHOTON STORM.(C) Demo version of this fast-paced space arcade game.

#502: GLOVES/FUTURE(C) Demo versions of Kid Gloves and Back to the Future.

#503: NEODESK 3 AND CLI DEMOS. Demo of NeoDesk 3, replacement desktop. NeoDesk CLI is a window-based command line interpreter that hooks into NeoDesk itself.

#504: KID GAMES.(C) KV_Match: Flip over squares to match baby and parent animals. Letter Hunt: learn alphabet by matching letters on the screen. Enchanted Forest: a variant of both 'Shutes and Ladders' and 'Candyland' suitable for children 3 and above. KV_Geo-1, Hypertext geography, learn about the solar system. Shareware.

#505D: TALESPIN ADVENTURES.(C) SDI, Mansion, and Mountain. SDI.TAL (created by 10 children in the 2nd–5th grades), MOUNTAIN.TAL was designed by 8 3rd–5th graders.

#506: UTILITY NO. 45. TLC-Play, play any digitized sound fmt file; TLC-namr, add symbols to file name; tlc-form, format disk to read/write fast; TLC-attr, change file attributes; mouse_db, new mouse doubler V3; spirited, text ed desk acc; a1-time, time & date setter; clock_5, all rez clock acc; maccel3, Atari Mouse Accelerator 3; ocularx, hard disk password protection; idle_22, idle screen saver;unlzh172, fastest extract for LZH archives; volume, rename disk vol; ST Sentry V5.1.

#507: TADS. Text Adventure Development System. Includes Ditch Day Drifter adv game.

#508: DEEP SPACE DRIFTER. A Text adventure game created with TADS.

#509D: GENIE FILES 9/90. Archive of files found in the 31 GENie libraries as of Sep 1, 1990. Files also listed in numerical order from 10,000 through 16,500.

November 1990

#510D: BULLETIN BOARD SYSTEMS. Two shareware bulletin board systems: Nite Lite BBS and Vulcan Embassy BBS.

#511: MIDI MUSIC DISK. MidiMike Version 1.0, Music Studio Song Player 1.2, and MSPlayer by Walter Holding.

#512: SORRY & ST SQUARE. (C). Sorry is the same as the popular board game of the same name. ST Squares is based on the Hollywood Squares game show.

#513: DISENCHANTED. An interactive fantasy game.

#514: PILEUP V3.1. (C) latest version of this Tetris clone is compatible with TOS 1.4.

December 1990

#515D: STARTING BLOCK. A collection of columns by Richard Gunter directed at the novice. Also includes other CN tutorial articles including a series on hard drives.

#516: STARGATE V3.0. Look out your spaceship and see the stars around you.

#517D: ALADDIN. GENie Atari ST Aladdin,

an automatic communications tool designed to provide you with the most efficient use of the features and services of GENie.

#518: UNION DEMO. A spectacular demo for the ST showing off many of the animation and sound capabilities of the ST. (C)

#519D: PRINTER UTILITIES. AW-Print, a generic printer utility that let's you define the characteristics of any printer and send codes via GEM drop-down menus. Also includes two 24-pin printer screen dump utilities (SCDMP1_5 and SCRDMP24), and specific printer setup utilities for the Panasonic KX-P1091i (PANASET), the STAR NB 24-10, (STARNB24), and Gemini 10x (GEMINI).

#520D: AIR WARRIOR, V2.0B. Latest update to this air simulation game. Game can be played in isolation to practice, but is designed for interactive combat on GENie.

#521D: CLIP ART NO. 16. "Old Cars," 28 IMG files of a variety of antique cars.

#522D: CLIP ART NO. 17. "Cartoons," 55 IMG files. 10 pictures of Garfield, 13 Smurf pics, and 32 other cartoon characters.

#523D: CLIP ART NO. 18. "Misc Themes," 49 IMG files: 6 Egyptian pictures, 29 Music pictures, and 14 Zodiac pics.

#524D: CLIP ART NO. 19. "High Res Pictures," a collection of 24 fine art pictures in an IMG clip-art format.

#525D: GRAN PRIX. An auto racing arcade game with dozens of various courses. (C).

#526D: eSTeem PILOT Demo (1.0). PILOT is the classic, educational authoring language, richly enhanced by GEM, for creating and using tutorials, computer-based instruction, and laser videodisc training.

#527D: NAME THAT TUNE & ALCHIMIE. Alchimie Jr is a music sequencer for use with MIDI. Name That Tune is a fun game that lets you match your skills with an opponent to see who is better at recognizing songs. Use with the song data disks listed below.

#528: NAME THAT TUNE MISC SONGS. 111 songs for use with the "Name That Tune" game on #527.

#529D: NAME THAT TUNE TV SONGS. 111 themes from various TV shows. Use with CN #527.

#530: CINEMA & FLASHCARD. Cinema allows young kids to run and create simple animation sequences. Flashcards is just like the name suggests. The author used it to help learn a foreign language.

#531: UTILITY NO. 46. Quick ST 2.2 Demo, speed up your ST! **Little Green Selector V1.88**--newest version of this alternative file selector routine. The **Gram Slam Grammar Checker Demo**--at last, a way to check your grammar!

#532: VALGUS & MANIAC MINER. (C) Valgus V2.0 is a GREAT 2-player version of a Tetris-clone game. Maniac Miner--go exploring for underground treasures but watch out for rockslides and other obstacles.

February 1991

#533: ST GAMES. (C) **Collapse V1.1,** Blocks fall in groups of 3. The object is to line

up 3 or more of the same type in horizontal, vertical or diagonal rows. **Jeopardy,** test your knowledge just like a contestant on the real show. **Valgus^2 V2.0** (pronounced "Valgus Squared,") In VSQ, the 7 familiar Valgus pieces are back, but they come at you from all 4 sides of the 27x27 playing area. **Tripple Yahtzee, V2.0,** popular dice game provides hours of enjoyment for one or more players.

#534D: HACMAN II. (C) This Pacman clone has all digitized sound effects plus several new "features": 100 new levels, 4 new ghosts, Cameo appearances by many other creatures, Puzzle boards, Skips (skip a board you hate by pressing the space bar), Ghost hit/miss statistics, Secret warps, and a surprise or two for the really devoted.

#535: KIDMIXUP PLUS. (C) The "plus" is that you can now add your own sequence files created with any DEGAS-compatible paint program. 3 picture files (a total of 27 sequence themes) are included with this program. Child chooses a sequence theme from the picture icons. 4 pictures appear. The child clicks on each in turn to place them at the bottom of the screen in the correct order.

#536D: FIVE KID PROGRAMS. (C) **Rabbit,** a rabbit bounces off the back of a fox in order to reach carrots floating by in the sky. **Santawrk,** Santa Claus is grasping for Christmas decorations while angels try to keep a trampoline under him. **Burger,** Ronald McDonald attempts to grab burgers as they float by in the sky. **Circus,** a 2-player math game with adjustable level of challenge. **Robin,** control mother robin as she eats flies and gathers her children from various nests. These programs for kids 3 and up.

#537: PERFECT MATCH, KV-FONIC, and MAKIN' AIKEN. (C) **Perfect Match,** shareware version of program originally distributed by Michtron. Match cards to demonstrate your knowledge. **KV_FONIC** introduces children to phonics. It includes 9 puzzles containing consonants (b,c,d...), blends (sl, sn, sm...) and digraphs (th,sh...). You can easily create your own puzzles or modify the existing ones. In **Makin' Aiken,** kids put together a little man by choosing the various heads, hands, feet, etc, all to the tune of a cute little song.

#538D: CALAMUS FONTS #2. Advertising, Architect, Barnum, Casual, Celtic, Chrome, Flash, Harloe, Mouse, Schoolbook, Western, Tiphany, Fancy Chancery, Windzor, University Roman and University Bold, Broadway Engraved, St Francis, and SHOW-FONT.CDK (produces a nice display of any Calamus compatible font.)

#539D: ARCADE DEMO DISK. (C) Toyota Rally, Flimbo's Quest, and Defender II.

NOTE: Due to the recent postal rate increase we have had to change our shipping and handling charge from \$1 for 6 disks to **\$1 for every 4 disks.**

CURRENT NOTES

CARTRIDGES

The CN library is also available on **Syquest 44MB** removable cartridges. Each cartridge holds approximately 100 disks of Public Domain and Shareware-
software.

Cart 1: 112 Disks #347 - #459

These include all the disks introduced by Current Notes from July of 1989 through June of 1990.

Cart 2: 80 Disks The Spectre Collection

Includes 80 disks of Macintosh software, in Spectre format (#S01 - #S80), plus the complete text of all CN Magic Sac and Spectre columns from 3/87 through 6/90.

Cart 3: 95 Disks #460 - #554

Our third cartridge is now ready. It includes all the disks introduced by CN from July of 1990 through April 1991, 95 disks and over 2,000 files.

\$119.95 each

(+\$4 Shipping & Handling)

NOTE: If you own an ICD FAST Tape Drive, **both CART 1 and CART 3** are available on a single Data Cassette tape for the price of a single cartridge, **\$119.95.**

You may also order Andrzej Wrotniak's programs through Current Notes:

STAR BASE, \$43.

EL CAL 1.3, \$44.

(Both programs for \$80.)

All Current Notes disks are only \$4.00 each (add \$1 / every 4 disks for S&H up to a maximum of \$6.00). 10 disks for \$35.

CN disks are guaranteed to work. If you ever encounter a problem, simply return the disk and we will gladly replace it. Note that a "D" after a disk number indicates a double-sided disk.

Order disks from CN Library, 122 N. Johnson Rd, Sterling, VA 22170. VISA and MC orders are welcome (703) 450-4761.

#540D: ARCADE DEMOS. Simulcra: arcade-type UK game
Spellbound: Psygnosis platform/collecting type game. **9 Lives:** ARC Software platform type game (Color)

#541D: GOD'S WORD^2 DEMO. Bible reading program God's Word ^2 for Medium or High resolution. There are six books supplied with this demo, and an abbreviated topical reference index.

#542D: KID GAMES: WUZZLERS and REBUS WRITER. Wuzzlers is a word and picture puzzle game. Rebus Writer allows the user to design and print rebuses, a kind of code in which pictures and symbols are used to represent words.

#543D: MIDI MAZE II. MIDI Maze II version 1.5 from Germany runs in color or high rez. 16 ST's can interconnect via MIDI port or a single player can give it a shot. Doc's in German.

#544D: PERSONAL MUSIC LIBRARIAN. Demo of PML, the comprehensive music cataloging system, restricted to 35 recordings or 60 songs in the database. Req1 Meg RAM.

#545: CARDFILE, NOTES, MUSICALC. CardFile 1.43 demo version limited to ten address cards and ten appointments, but is otherwise fully functional. **Notes v0.9** (shareware) allows you to keep the equivalent of those little yellow stick-on note papers within your computer. **Musicalc v2.02.** In addition to normal numeric calculations, will perform time base and footage calculations. The most unique feature however is its ability to calculate bar (or beat), SMPTE time, and footage offsets referenced to a starting SMPTE time..

#546D: TCB TRACKER DEMO. TCB Tracker, officially named the best music program of 1990 in Europe, is a four track music record and playback system that includes a drum machine, sequencer, and synthesizer all built in. In essence, it's a complete mixing studio.

#547D: KID GAMES: 7KIDS and BARNIMALS. The Wolf and the Seven Kids is a first adventure for young computer users, ages 5-9, based on the Grimms' fairy tale, with several possible endings to the story, depending on what choices you make, and there are numerous opportunities for making choices. **Barnimals** is a listening/guessing game for the very youngest computer users, ages 0-4.

#548: UTILITY DISK NO. 47. BACKUPST: hard disk backup utility. **KTEXT133:** K_Text version 1.33 allows viewing of Degas or Pixel perfect pictures. **STEXT11:** fast text reader for the ST. **PFXPAK:** A German runtime packer that will LZH your executable files and put a bit of SFX code at the beginning. When you click on a program, it will first extract itself, then run. **LIBMASTR:** organize, modify, convert, and print your Print Master Libraries. **TEXTVIEW:** a GEM-based text file viewer with all functions controllable by the mouse. **TX2_VIEW:** Demo of text reading program, version 1.35. **PINHEAD,** drastically reduces the amount of time it takes to boot your computer and load and run programs. **BIGCOLOR:** V1.05 is for use with Mono monitors, and allows some low resolution and most medium resolution programs to be run on a Mono monitor. **SANDP21:** ver 2.1 allows you to make your own electronic newsletter by formatting the text output in the window with different fonts and colors. **FB2:** First Base (ver 1.7) Database is a fast memory resident database system for small and medium size applications.

#549D: UTILITY DISK NO. 48. A2LSWITCH Allows you to switch back and forth between the ARC and LHARC compression methods. **ARCSSL23:** ARC Shell V2.3 is a GEM program, designed to work with ARC.TTP, that adds a GEM interface letting you point and click to select the various options instead of typing a command line. **UNLZH:** v1.61 combines GEM interface with high speed extraction routines to give you a simpler and faster way to extract LZH archives. **ARC602ST:** ARC File Archive Utility, V6.02 creates and maintains file archives with compressed files that take up a minimum amount of space. **LHA121:** v1.21 another file compression utility that is even more efficient than ARC. **ARCGSH35:** Arcgsh v3.5, a program that eases the calling of the well-known archivers Zoo, Arc, LHarc and Shar. **UNERASE:** This accessory allows you to undelete a file or a subdirectory.

#550D: STRABBLE and NOVA. STrabble is cosmetically similar to the crossword game Scrabble, although this version can be played with just one player--against a computer. Runs in mono or color. Nova is a brilliant shoot-'em-up arcade game, similar to Galaxian (C).

#551D: SUPERBOOT. V7.0 of Super Boot lets you select which desk acc., auto programs and DESKTOP.INF files to use. This latest version plays digitized sound and allows you to change function keys without going to desktop. Disk also includes acc, autosort, digiedit, Picswitch) and 3 pairs of sample sound and picture files. Plus, SnapIt screen capture utility, masskill to delete many files, and FormDolt which alters the way Dialog and Alert boxes appear.

#552D: CALAMUS #3. Several new fonts (Lucifer, Tiempo, Pirates, Horstcap, Leecaps, Medici, and Zalescap) plus messages from GENIE Calamus round table (2/2/88 through 3/9/91).

#553D: ALADDIN #2. Aladdin's Magic Browser V1.1 enables you to convert Aladdin .DAT files to text files for use with other programs. Has built in options for searching and printing library listings. **ALADCOMP.ARC,** a directory of all GE files from #2139-18581 of Atari ST Roundtable Libraries in Aladdin format.

#554D: INFORMER II/R_BASE/TLC ADDRESS BOOK. Informer II is a multiple table, semi-relational, data/image manager capable of processing data records and manipulating presentation graphics. **R_Base,** shareware demo of database program (has a limited on number of records). Reports may be sent to printer or disk file. **Address Book** is a handy little database you won't want to be without.

New Disks for May, 1991

#555D: UTILITY #49: ABFormat, a multitasking floppy disk formatter. Calendar DA V4.7 and CalShow (See ST Toolbox April, '91). HotSaver 1.5, HotWire's screen saver and mouse accelerator. **IMG2ICN,** convert bit .IMG files (mono) to Degas Elite .ICN files. **IMGVIEWR,** view .IMG files with 4-window environment for multiple-file display. **MCF,** desk acc shows directory structure and allow you to change to any subdirectory by just clicking. **ST_TOOLS,** preliminary version of PC Tools look-a-like with limited functionality. **TN_PCALC,** v1.2 of a windowed printing/programmers calculator. **TLC_ATTR,** displays ALL files and allows changing attributes. **TLC_FIXR,** allows simple changing of text strings in programs. **TLCFORM2,** formats in a fast 9 sector (disks read and write faSTer than twisted disks) or in a standard 10 sector format. **TLC_NAMR,** allows use of ALL the ST's characters in filename. **TLC_PLAY,** allows loading and manipulation of ALL digitized sound file formats. **TLC_SHOW,** Spectrum (.SPC) picture viewer. **X-MON,** replacement for the Monitem Viking monitor driver.

#556D: CALAMUS #4. Glip font family (Roman, Oblique, Bold, and Bold Oblique). **ACURANSX,** an arced CVG file of an Acuransx created in Outline ART by Rolf Berger. **THEGUNTH,** 2nd place winner and Bob Gillies Jitney, the 1st place winner from the annual Outline ART contest. **MYCALNDR,** calendar. **FONTS** (Marcella, Rockside).

#557D: HERO! DEMO. new graphic adventure game featuring hundreds of items and creatures, and over 200 rooms to explore. Other features are multiplayer mode, modem play, macro language customization, full color backgrounds, and real time battle system.

#558D: ST GAMES: AMAZE, (c/m). Dark Castle (c), a 'board game' requires at least 2 players with a max of 4. **V3.06** of Daniel's Dungeon! (c/m) is maze game that you must graduate to win the game!. **Reaction (c)** takes after the Arcade game ATAXX and is VERY HARD to beat! Great strategy game! Super Mastermind--use logic to determine the computer's hidden code.

#559D: FINANCIAL UTILITIES. FGRAPH demo produces many types of common business and scientific graphs, including 3D. **FCALC25,** a new and improved version of FINCALC. **APROCALC,** a professional, commercial-quality desktop calculator. **BIGBUX13,** a program that will help you manage your money with 20 different options. **CHECK_BK,** has an easy to use interface that combines GEM and keyboard commands to give an efficient and easy to use feel. **Chekbook v1.19,** is a dedicated checking account database.

New Spectre CN Library Disks

by Jeff Greenblatt

CN is adding #S116-#S120 PD and Shareware disks to the Spectre Library. Disks marked with an * require Spectre Version 3.0. Disks are \$4 each plus \$1 S&H for every 4 disks. Order from CN Library, 122 N Johnson Rd, Sterling VA 22170 (703) 450-4761.

S120D: Productivity #3. Contains MortCalc 1.81, BiPlane 2.0, Amortization 4.0, MacLoan 3.7, and Pcal 2.11.

Month	Interest	Principal	Balance	Ass. Interest	Ass. Prin.
1	95.05	790.32	5,209.68	95.05	790.32
2	88.25	797.09	5,411.79	184.09	1,587.21
3	80.61	805.56	5,656.36	264.71	2,391.74
4	72.95	815.24	5,795.50	337.60	3,207.00
5	65.10	821.05	5,901.95	402.70	4,025.05
6	57.25	828.82	5,115.05	469.89	4,856.92
7	49.29	836.84	4,804.17	509.22	5,498.85
8	41.22	844.88	4,441.29	550.48	6,259.72
9	33.17	852.98	4,008.31	584.84	7,099.49
10	25.00	861.35	3,517.19	620.65	8,292.85
11	16.76	869.41	3,077.24	658.00	9,122.25
12	9.41	877.24	0.00	632.81	9,999.99

Year 1

Run Macintosh Amortization (x/PU) : *

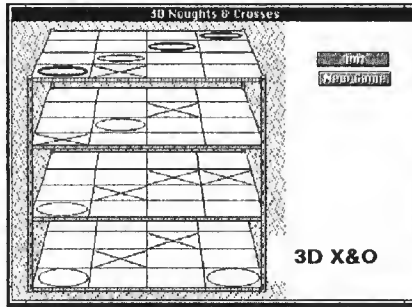
Amortization 4.0

S119: Sounds #10. 17 sound resources for use with Soundmaster or Finder Sounds (Again?, AllRight!, And now it's time, Aoooga, BullWinkle!, Cotton picking wolves, Cuckoo, Ehrrrr!, Hi Kid!, Homey Don't Play Dat!, I Think It Sucks!, I'm Livin' It., Muttley, Now Here's Something, Rooster, Thieves Drill, and Why???)

S118*: Utilities #18. Bootman, Scrambler, Styler 2.0, The TypeBook 1.29, DA Handler Resizer, and Reader.

S117: ATM Fonts #4. Los Angeles, ParisMetro, Showboat, TempoFont, and Tribecca.

S116*: Games #17. 3D X & O, Flip-



per, and Pararena 1.1.

S115: Metamorphosis Demo. Metamorphosis 1.5.1 converts Postscript fonts to 4 formats. Type 1-(ATM), Type 3, Illustrator 1.1 EPS (readable under Freehand or Illustrator), and Fontographer 3.x type that can be modified further in Fontographer.

S114D*: Utilities #17. Set Pathes, Compact Pro 1.30, DOS Mounter Demo (Reads IBM disks under Spectre), Launcher 3.5, Sav-O-Matic, SoundMaster 1.6.5, and SoundMover 1.70.

S113D: ATM Fonts #3. Black Chancery, Black Forest, Classica Heavy, Flintstones, Middleton, Sharktooth, and Upper West Side.

S112D: 3 Text Adventures. C&W Adventure, Deep Space Drifter and Ditch Day Drifter.

S111D*: Games #16. Columns, Loyd's Lunacy, Office Attack, Rubik's Wrap, Tank Commander, and CrossWise.

S110D: VideoWorks #3. 14 VideoWorks animations and a VideoWorks player (Circles 4th, City Street, Fish Story, Fool!, Lazer, MacMelt, Ol'SnakeEyes, Oracle, Shoes, Space Epic, Sub City, Tyrone, Weirdness, and Wishes.)

S109D: ATM Fonts #2. Benjamin Caps, Kingstein Caps, Lower East Side, Lower West Side, Rudelsberg, Starburst, Upper East Side, and Varah Caps.

S108D*: Taromatic. A single HyperCard stack. If you are into fortune telling or what the future beholds, give this a shot.

S107D*: HyperStacks #12. Amino Acids, Ansel Adams, Bloom County, Compress Plus, Home Desk, Homicide Investigation, HyperStation, Stock Tracker, and Usigi's DogCon.)

S106D*: Games #15. Euchre 2.5, Montana 2.0, Pokeno, Precision Cribbage, Save The Farm, and Spacestation Pheta 1.5

S105: ATM Fonts #1. Carrick Caps, Green Caps, Horst Caps, Konanur Caps, Lee Caps, Reynolds Caps, and Zaleski Caps.

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S101D*: Games #14. Express Lane, Glider+ 2.02 with Docs, Glypha 2.0 with Docs, MiniGolf, pNuki 1.1, Slam Dunk 1.2, TENSI, and Tripple Yahtzee.



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S51D: Postscript fonts No.1
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S48D: Phoenix Adv Game, disk II
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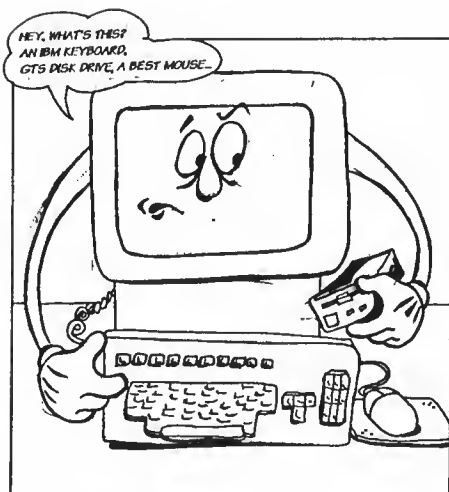
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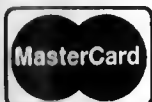
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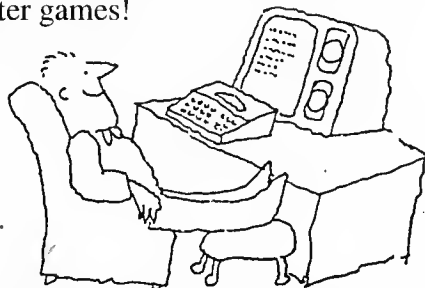
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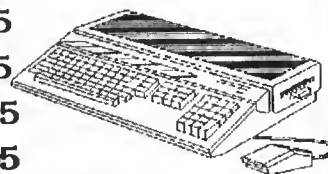
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